

MOTOREX

magazine

No. 74/25
April 2005

IN PRACTICE

***Development
report, KTM
RACING 4T
SAE 20W/60***

MOTOR OIL

***MOTOREX
XPERIENCE
FS-X 10W/60***

MOTO LINE

***The new low-
friction fork
oils are here***

INDUSTRY

***Industrial
expertise on
call – reader
service***



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CHALLENGE THE LIMITS.

Records are there to be broken. The only way to do the impossible is to keep on going when others stop. And no matter where you want to go, the oil to get you there is MOTOREX. + 41 (0)62 919 75 75, www.motorex.com



Editorial



Dear reader

“Made in Switzerland”: will this symbol of precision, high-tech and innovation continue to proudly adorn watches, machine tools, medicines or lubricants in the future? Is “Produced by MOTOREX” still possible, if costs for salaries, social insurance contributions, energy and also especially for work safety are many times higher than in other production centers?

The daily challenge facing the head of production is to ensure that the company's products are manufactured cost effectively, in the proper quality and by the specified deadline. Not only productivity, but also workplace security and safety are key. Can MOTOREX's site in Switzerland survive the flood of national regulations in the medium term? Guidelines, water protection legislation and air purity laws etc. are resulting in increasingly high costs which are not paid in international markets.

MOTOREX is rising to these challenges and is committed to the safety of humans and the environment. But sustainable corporate development must also be possible. Our goal is to reconcile these two principles with a hefty dose of common sense.

Why not invent products which don't need regulation? Such as our new rapidly biodegradable MOTOREX OEKOSYNT HEES hydraulic fluid? We'd like to tell you about this, as well as our joint venture with PETRONAS in Malaysia.

Optimum job safety and an internationally competitive “Made in Switzerland” label – both of these must continue to be possible for MOTOREX.



Walter Howald
Head of Technology and Logistics

Photo: KTM



PAGES 6/7

In practice The well-known motorcycle manufacturer KTM has been working closely with MOTOREX for about 3 years now. One of many results is the newly developed KTM 4T Racing motor oil.



PAGE 10

What's new Hydraulic fluids transmit incredible forces. A defective line can quickly result in expensive contamination of the environment – but not with the new OEKOSYNT HEES biofluid.



PAGES 12/13

Industry

MOTOREX AG has specialized in industrial applications for more than 30 years and has built up an immense knowledge base. Use this knowledge for yourself with the new MOTOREX reader service!



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IMPRESSUM

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Contents

MOTOREX NEWS

4/5

Geneva Motor Show:
3 reasons to celebrate

NORCO: BIKE LINE for Canada

KART LUBE RACING 2T
with low-friction technology

MOTOREX produces PETRONAS
SYNTIUM for Switzerland

INTACT corrosion protection
helps metal retain its value

MOTOREX CAR LINE conquers
the Greek market

BIKE LINE in large containers
for workshops

IN PRACTICE

6/7

Development report:
KTM RACING 4T SAE 20W/60

HIGHLIGHT

8

CLEAN & CARE:
higher gloss, higher sales

MOTOR OIL

9

A motor oil puts on the
pressure: MOTOREX XPERIENCE
FS-X SAE 10W/60

WHAT'S NEW

10

OEKOSYNT HEES hydraulic fluid –
a better choice naturally!

MOTO LINE

11

Six right choices:
low-friction fork oils

INDUSTRY

12/13

MOTOREX reader service:
know-how on call

BOX

14

Cool ideas
Do you know what...?
Comic

Geneva Motor Show: 3 reasons to celebrate

The organizers and exhibitors at the 75th Geneva International Motor Show had three good reasons at once to celebrate: The centenary of the first automobile exhibition in Switzerland, the 75th Geneva Motor Show and a new record attendance of 747,700 visitors!

Highlights of the exceptional program for the 2005 show included a special retrospective exhibition, special presentations of classic vehicles on the



stands, the publication of a unique book and a commemorative coin.

And of course another huge array of motor

vehicle innovations.

The MOTOREX and MOTOREX-TOPTECH stand in Hall 7 also boasted a wide range of highlights from the worlds of lubrication and garage equipment.

Thanks to all for stopping by at the Geneva Motor Show 2005!

PETRONAS SYNTIUM "Swiss made by MOTOREX"

Those aerodynamically sophisticated, technically perfect Formula 1 marvels are back on the starting grid. And naturally the Swiss SAUBER PETRONAS team is right up there too with its new C24.

No, MOTOREX has not become a co-sponsor for Formula 1, but it has been on a highly important official mission for PETRONAS since the beginning of this year. BUCHER-MOTOREX produces the high-quality PETRONAS motor oils SYNTIUM 5000 FS, 3000 S and 1000 S for the Swiss market. The PETRONAS motor oils are the result of the experience gained in the unforgiving environment of F1 racing and have been therefore been customized for absolute peak performance.

1 liter bottles and 4 liter canisters of the high-tech lubricants are sold exclusively through COOP DIY outlets and fueling stations in Switzerland and the Principality of Liechtenstein. All of us at MOTOREX wish PETRONAS, COOP and of course the SAUBER racing team from Hinwil a commanding lead in this important year.

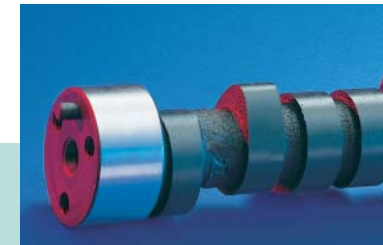
Left to right: Mike Hession (PETRONAS) Peter Regensass (BUCHER AG MOTOREX) Peter Sauber, Urs Jordi (COOP) and Azmi A. Latiff (PETRONAS) at the presentation of the PETRONAS motor oils.

CAR LINE captures the Greek market



A higher than average number of cars in Greece are from Japan and Korea. In fact cars from these countries now hold more than 50% of the market! This is good news for IAPONIKI, the leading provider of OEM spares. Since 1973, this company, which is currently part of the TEMOT group, has specialized in the purchasing and distribution of spare parts for cars from the Land of the Rising Sun.

IAPONIKI has twelve large branches supplying hundreds of regional garages throughout the country, and even on the island of Crete. The quality-consciousness of owners of Japanese cars, which have shone for years with their high reliability in breakdown statistics, has got the MOTOREX CAR LINE off to a spectacular start in Greece. The low-vapor-pressure base oils used in the CAR LINE products have resulted in a measurable reduction in oil consumption in many vehicles! This is a convincing proof of quality in the heat of the Greek sunshine!



Helping to maintain value:
MOTOREX INTACT



Whether for mass-produced parts or precision metal tools, effective corrosion protection is an important element in the industrial production process. MOTOREX INTACT corrosion protection offers the following outstanding features:

- High-quality corrosion protection fluid
- Optimum environmental compatibility, no VOCs (volatile organic compounds)
- Extremely cost-effective with measurable results

Until now, there has been no efficient solution for dewatering without VOC. And this is exactly the innovation behind the INTACT products: they provide exceptional dewatering, high-quality corrosion protection, simple and clean use as well as maximum environmental compatibility. Just to make sure that metal masterpieces hold their value!



MOTOREX BIKE LINE for Canada

NORCO was founded by Bert Lewis in 1964 and today is one of the most renowned providers of bikes and accessories in Canada and North America. With a dense network of independent distributors which includes Canada's major department stores, NORCO and its products have a considerable impact on the market.

As a champion of outstanding quality, NORCO has made a good choice as a new partner for the BIKE LINE.

The MOTOREX BIKE LINE is used and recommended internationally by the top racing teams and bike manufacturers. This is due both to the "quality made in Switzerland" and also to the high environmental compatibility; nearly all BIKE LINE products biodegrade completely and quickly.

We wish NORCO every success with MOTOREX BIKE LINE!

BIKE LINE in large containers for workshops

When servicing and maintaining bicycles, professional workshop mechanics put their trust first and foremost in products that increase shop efficiency and reduce the burden on the environment. MOTOREX's comprehensive BIKE LINE range of lubrication and maintenance products fulfills these requirements perfectly. The EASY CLEAN, BIKE SHINE and BIKE

CLEAN products are now available in handy 25-liter and 5-liter containers.

The WET LUBE and DRY LUBE lubricants can also now be ordered in 5-liter cans. As always, the handy and attractive small containers are still good for bike maintenance by the actual end users. The new season is just around the corner.

Photo: Clemens Aeppli



KART LUBE RACING 2T with low-friction technology

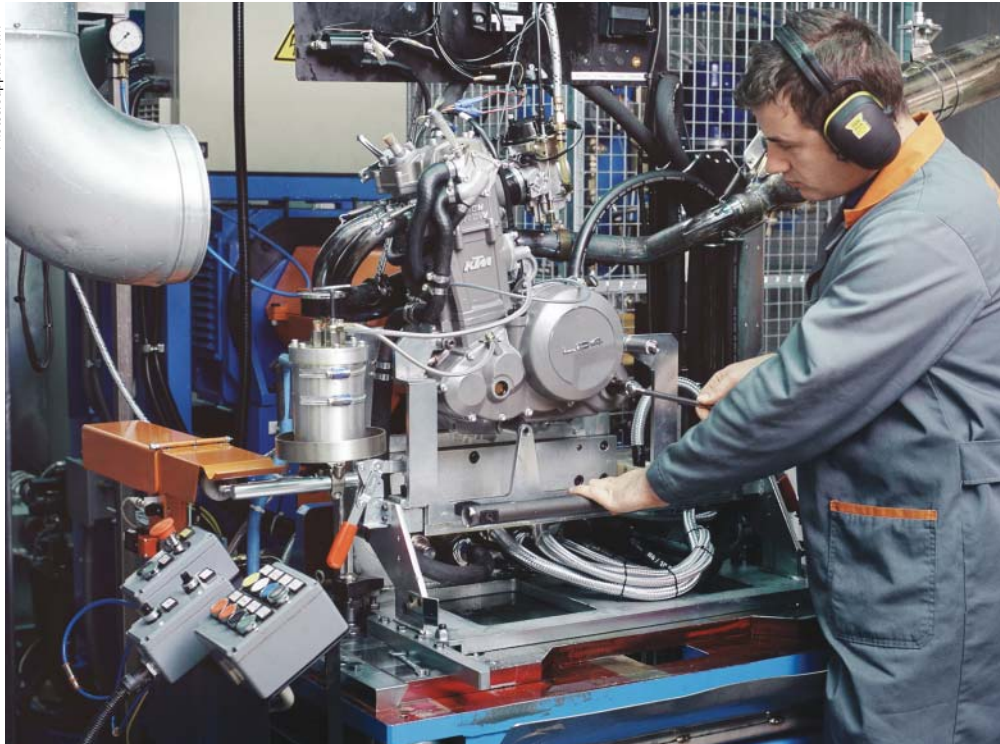
KART LUBE RACING 2T has been improved again by the first-time use of new 2-cycle low-friction technology. Novel additives reduce friction in all moving engine components such as pistons and connecting rod and crankshaft bearings. This reduces the temperature in these wear-intensive components and increases power output measurably. The components' wear behavior is also significantly improved. This is confirmed by laboratory and real-life tests conducted in cooperation with the renowned kart manufacturer and MOTOREX partner, ROTAX.

In January 2005, the new KART LUBE RACING 2T passed its first major acid test with flying colors in races in the GRAND FINAL ROTAX MAX challenge in Sharm el Sheik in Egypt.

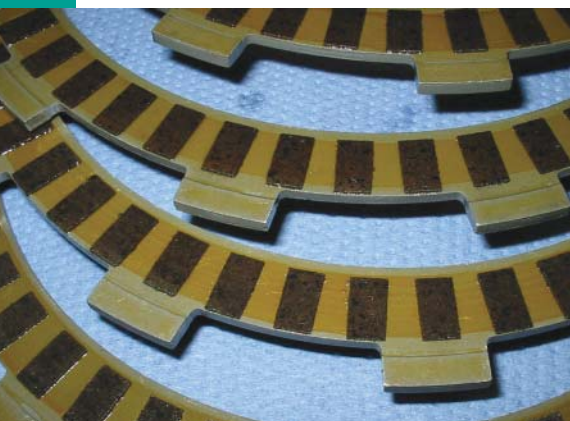


Series-production motorcycles from KTM are factory-filled with high performance MOTOREX CROSS POWER 4T SAE 10W/50 motor oil. This motor oil served as the basis for development of the uncompromising racing motor oil KTM RACING 4T SAE 20W/60.

Photos supplied KTM



Development report: KTM RACING 4T



With MOTOREX CROSS POWER 4T, clutches can be precisely engaged and heavily loaded in the oil bath without slipping.



The piston also still looked quite good after the test, with wear parameters within the applicable tolerances.

The well-known Austrian motorcycle manufacturer KTM has been working closely with MOTOREX for about 3 years now. In a first step, a specification for factory-filling series-production motorcycles was defined for each model, and the corresponding MOTOREX lubricants were evaluated minutely for their suitability, using the official API/ACEA and JASO releases as a reliable basis. The result of this close cooperation was the fully synthetic CROSS POWER 4T SAE 10W/50, featuring a new formula and innovative additive technology. The KTM engineers' response to this high performance motor oil was immediate and enthusiastic.

A revealing comparison test

However, a motorcycle manufacturer like KTM wants to be totally sure of its choice before it specifies and factory-fills a motor oil. MOTOREX CROSS POWER 4T SAE 10W/50 therefore had to be put to the acid test in a comparison with a competitor lubricant.

The KTM and MOTOREX engineers were interested in real-life results as well as those from the test stand. In a rigorous field test, both lubricants with the same

viscosity and with the same fully synthetic basic formula were run in series-production motorcycles and meticulously evaluated. It should be pointed out here that MOTOREX CROSS POWER 4T is optimally suited for all high-revving, high-torque 4-cycle motors with its extremely pressure-resistant and hence stable lubricant film.

100 hours on the test stand

APL GmbH of Landau in Germany was selected as a neutral and independent development service provider for the test stand evaluation. This company has ultra-modern dynamic engine test stands and top of the range instrumentation for wear and other laboratory investigations (www.apl-landau.de).

As the final test, two KTM 660 LC4 1-cylinder, 4-cycle engines with ratings of roughly 44 kW were to be tested in parallel on two engine test stands for 100 hours, at oil temperatures that exceeded 160°C at times. The only difference was the motor oil used: MOTOREX's fully synthetic CROSS POWER 4T SAE 10W/50 in comparison with the motor oil supplied by the previous lubricant partner.

Next target: motor sports

CROSS POWER 4T's impressive test results also highlighted MOTOREX's potential as lubrication innovator to the decision makers in the KTM racing department. A purebred racing fluid was developed based on CROSS POWER 4T technology, but with uncompromising and consistent orientation to the requirements of the KTM racing department. The high viscosity class guarantees optimum oil distribution even in the temperature ranges typical in racing conditions. The additive package was also given a further shot in the arm. The uncompromising KTM RACING 4T SAE 20W/60 was born.

The new KTM RACING 4T SAE 20W/60 motor oil, specifically tailored to the profile of KTM's powerful 4-cycle racing engines was then adopted in the KTM racing department. With its slightly higher viscosity, KTM RACING 4T ideally covers the requirements of racing motors with outputs exceeding 105 kW/l with regard to the prevailing combustion and bearing pressures, as well as the extreme temperature loading of the motor oil. The verdict was unanimous at KTM Racing: KTM RACING 4T should be tested under real racing conditions in DAKAR 05!

Trial by fire in the DAKAR 2005

KTM was well represented in this year's Barcelona to Dakar rallye, since many of the 236 participating motorcycles were customer racing bikes. There were two official MOTOREX-KTM teams: The Red Bull KTM USA team with four riders and the MOTOREX Australia KTM team with two riders. Apart from the actual placings, the KTM and MOTOREX representatives were also interested this year in the results achieved with the newly developed MOTOREX KTM RACING 4T SAE 20W/60. Over the entire 8,956 km route, not a single one of the KTM 660 Rallye or 450 Rallye machines dropped out due to engine damage! Given the extreme conditions in Africa, this alone is a result which all involved can be proud of.

KTM RACING 4T and other MOTOREX products are available worldwide through KTM's dealer network.



Bearing wear was measurably lower with CROSS POWER 4T than with the competitor motor oil.

Outstanding test results for CROSS POWER 4T

The APL test institute provided professional documentation of the test. Here is a brief summary of the results:

- Both motor oils fulfilled the test requirements.
- However, MOTOREX CROSS POWER 4T exhibited significantly better wear protection over its competitor. This could be clearly seen even with the naked eye in the contact conditions of the main bearing and the crankpin.
- The quantity of fuel in the CROSS POWER 4T motor oil was significantly lower. This is a particularly important advantage for KTM LC4 engines, as it prevents hazardous dilution of the lubricant with gasoline.
- CROSS POWER 4T also exhibited outstanding clutch behavior.
- KTM therefore officially recommends CROSS POWER 4T SAE 10W/50 in its maintenance documents for all series-production KTM 4-cycle motors.



Photo: G. Soldano



The reliability of the many KTM machines participating in the Dakar 05 took several teams straight to the winners' podium.

Highlight

An immaculately cleaned and cared-for vehicle is always a good business card. In addition to holding value, it's also a sign of careful handling. And a lucrative additional business for you...



CLEAN & CARE: Higher gloss, higher sales



The WHEEL CLEANER gel adheres well to the wheel and actively loosens dirt without using aggressive active agents.

A thorough "spring cleaning" of your car when winter is over is no luxury. Once salt and heavy dirt have been removed, the CLEAN & CARE line provides the right product for every area. In addition to such top sellers as INTERIOR CLEAN, GLASS CLEANER and WHEEL CLEANER, the MOTOREX CLEAN & CARE line boasts a further seven products.

When a customer brings his car in for service, let him have it professionally cleaned with the proper CLEAN & CARE products for an all-inclusive price. You can suggest using the practical smaller containers and then let the customer take them home after you have cleaned his car. Proper care is known to be a hot topic, especially for owners of newer vehicles.

Or mention the correct wheel cleaner to them when they come for their spring tire change.

Tough on dirt – easy on the environment



Users often worry about the effectiveness of biodegradable products – but fast biodegradability does not mean less effective cleaning. Most of the maintenance products in the CLEAN & CARE line biodegrade to 83 – 90% within 28 days in accordance with the applicable standards. Yet another reason for the outstanding success of this Swiss maintenance line.

Ask your MOTOREX partner for the CLEAN & CARE product flyer now.

GLASS CLEANER

glass cleaner
25 l, 4 l, 500 ml spray bottle



PLASTIC CARE

plastic cleaner with color restoration
25 l, 4 l, 500 ml spray bottle



INTERIOR CLEAN

interior cleaner with scent absorber
25 l, 4 l, 500 ml spray bottle



WASH & PEARL

car wash concentrate with beading effect
25 l, 4 l, 1 l



WASH & WAX

car wash with wax seal
25 l, 4 l, 1 l



WHEEL CLEANER

wheel cleaner with corrosion protection
25 l, 4 l, 500 ml spray bottle



PRE CLEANER

insect and tar remover
500 ml spray bottle



PRO TEX

textile and leather impregnation
500 ml spray bottle



WIPE & CLEAN SUMMER

highly concentrated windshield cleaner
250 ml refill bottle



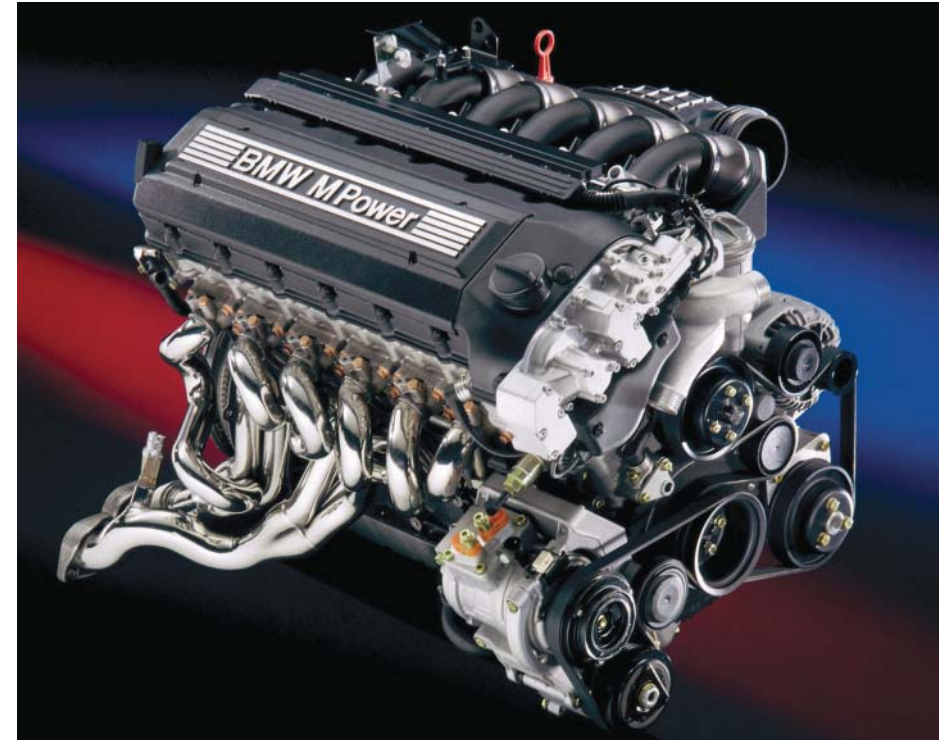
WIPE & CLEAN WINTER

windshield cleaner with frost protection
2 l collapsing bottle



Marketing tip: Place displays with products where they can easily be seen and bought.

Motor Oil



The revs are heading for the redline, the oil temperature indicator has reached a new peak...

A motor oil puts on the pressure

...and then the red oil lamp lights up: low oil pressure! This is almost always due to a low oil level or to a motor oil with insufficient reserves.

Not just for extremes

Anyone who drives a powerful, high-revving vehicle with a sporty turn places especially tough demands on the performance and reliability of their motor oil. Depending on the product, high operating temperatures in the engine can cause a significant fraction of the motor oil to evaporate after just a few hundred kilometers. The result can be critical oil consumption. Cam shafts, cylinder walls and all the other components in the engine are then no longer adequately supplied with the oil they need to survive. But aggressive stop-and-go traffic, especially in the hot summer months, can also attack the motor oil.

Fully synthetic and SAE 10W/60!

The wear-protecting viscosity of the motor oil decreases as the engine temperature increases. For example, the oil loses nearly 15% of its viscosity if its temperature rises by just 10°C – i.e. the oil film becomes gradually thinner. With its XPERIENCE FS-X SAE 10W/60 motor oil – a totally new development –

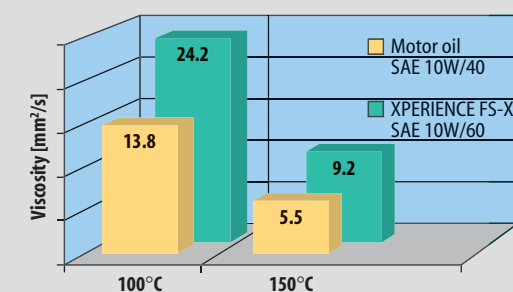
MOTOREX hands back a generous portion of reliable lubrication. With its new fully synthetic formula, XPERIENCE FS-X SAE 10W/60 builds up an especially thick lubricating film which stays extremely pressure resistant even when things start to get very hot. Since its viscosity is 70% higher than an SAE 10W/40 motor oil, it ensures reliable coating in all areas of the engine. The motor oil cannot seep into the combustion chamber via the cylinder walls or valve shafts.

No limits

Improved viscosity in the upper temperature ranges does not mean compromises in cold-weather operation though. The engine starts just as easily and reliably as with an SAE 10W/40 oil. All of the lube points are immediately supplied with oil, and the necessary oil pressure builds up extremely quickly. With its extremely wide temperature range, XPERIENCE FS-X SAE 10W/60 is therefore also suited to year-round use and guarantees high mechanical stability, thermal reliability and long service life.

The fully synthetic MOTOREX XPERIENCE FS-X SAE 10W/60 is therefore the best choice for all engines in sporty cars.

Viscosity/temperature behavior



Its optimum viscosity temperature behavior makes XPERIENCE FS-X SAE 10W/60 the product of choice even at 150°C.





OEKOSYNT HEES – a better choice, naturally!



MOTOREX OEKOSYNT HEES successfully passed the rigorous 1,300-hour endurance test at Bosch Rexroth.

Photo: Bosch Rexroth

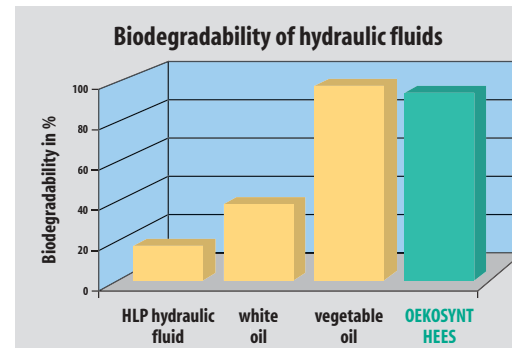
The quickly biodegradable OEKOSYNT HEES hydraulic fluid also benefits companies with its high environmental compatibility and 3 to 5 times longer service life.

Ecological and economical

With the development of the new rapidly biodegradable OEKOSYNT HEES hydraulic fluids, development engineers and chemists have successfully overcome the challenge of uniting maximum environmental compatibility with long service life.

Biodegradable within...

If a lubricant escapes into the environment, it can serve as a source of nutrition to the



millions of microorganisms that live in the ground and water. Ideally, the microbes will transform the lubricant into water and carbon dioxide.

OEKOSYNT HEES hydraulic fluids fulfill the toughest degradation test, OECD 301B, which requires a biodegradation rate of 60% within 28 days. A fluid that performs well in the laboratory also has to be just as good in real-life use, and OEKOSYNT HEES has given an impressive account of itself in extensive field testing.

OEKOSYNT HEES is available in ISO VG 22, 32, 46 and 68 viscosities.

OEKOSYNT HEES – naturally the better choice for your business!

OEKOSYNT HEES features the following properties:

- Miscible with comparable products
- 3 to 5 times the service life of petroleum
- Fully synthetic, with the latest additive technology
- Extremely versatile
- Official releases: Bosch Rexroth, DIN ISO 15 380 (HEES), etc.
- Quickly biodegradable in accordance with OECD 301 B
- Oil analyses by the MOTOREX laboratory included

OEKOSYNT HEES handles hard outdoor work while protecting humans and the environment.



Photo: supplied



Photos: WP suspension

Damping comfort and terrain feedback are two especially important issues for every motorcyclist, both on and off the road. A feature on the new MOTOREX fork oils.

Six right choices: low-friction fork oils

Motorcycle fork technology has undergone significant advances in recent years and now provides impressive performance with all manner of refinements. However, these results depend not only on the basic fork design and settings, but also very greatly on the damping oil used. This has to flow lightning-fast through a complex system of valves and channels at all temperatures, withstand high pressure loads and still provide optimum lubrication.

Low-friction technology for tangibly better driving comfort

Particular attention was paid to ride comfort in the development of the new MOTOREX FORK OILS. On the one hand, damping entails the accommodation and softening of pressure in the form of impacts, shocks and wave-like frequencies, but on the other hand, the rider also needs to receive clear feedback on the current terrain condition. Under no circumstances can the piston rod be allowed to move jerkily in the damper (stick-slip). A newly developed, low-friction additive has led to never-before attainable damping properties.

As a result of the outstanding temperature behavior of the base oil and the new additive package, the damping characteristic

remains virtually constant even over a wide range of temperatures. This not only enhances driving pleasure, it also helps to increase driving safety enormously, both on the racetrack and on the road.

Specially developed for modern motorcycle forks

The new generation of MOTOREX FORK OILS is available in SAE 2.5W, 5W, 7.5W, 10W, 15W and 10W/30 viscosities. This fine subdivision of viscosity classes enables exact adherence to manufacturer specifications, as well as optimum tuning of damping properties to current terrain conditions, such as in off-road racing.

In addition to these advantages of low-friction technology, MOTOREX FORK OILS also offer highly effective protection against corrosion by condensate, are resistant to aging and prevent foaming even under extreme conditions.

MOTOREX low-friction technology – the new standard in fork oils.

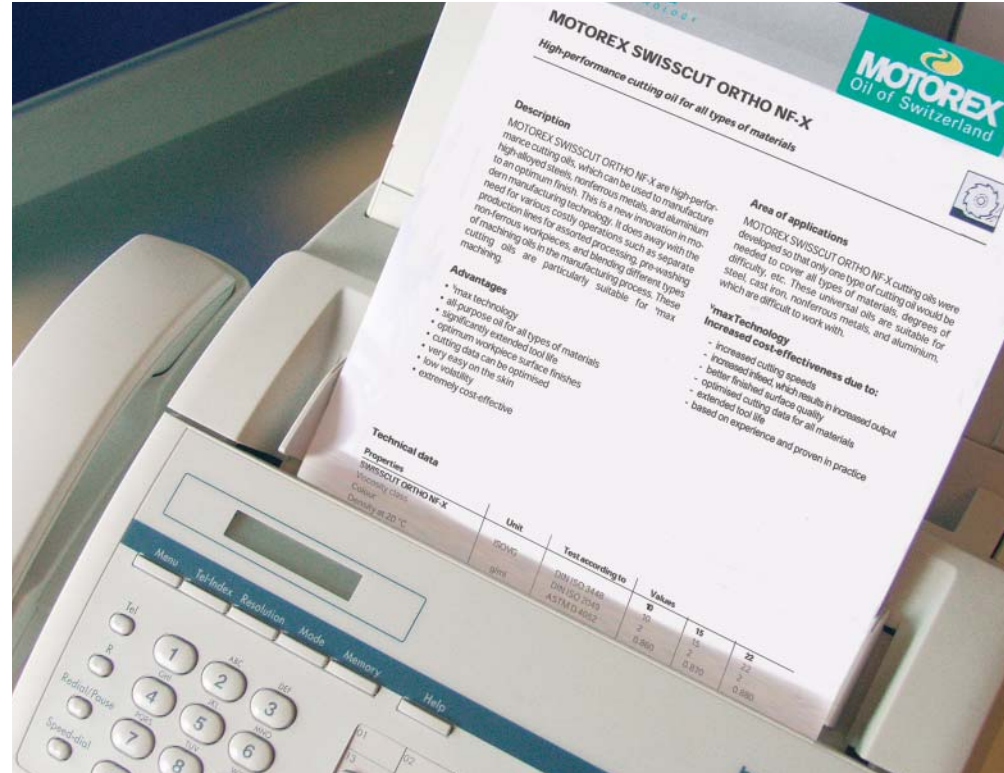


With their extremely high viscosity indices, MOTOREX FORK OILS flow perfectly through the damper valves at all temperatures.



A special maintenance additive keeps the seals supple, thus ensuring long service life of the entire damping unit.

As a result of the close cooperation between TORNOS and MOTOREX, a large number of real innovations have already been developed to date, and many interesting subject areas have been tackled. Would you like to learn more about a specific machining method and the products suited to it? This reader service will help you do this.



Reader service: Know-how on call



There's an ideal processing fluid from MOTOREX for every production process – we know which one!



Comprehensive laboratory services: An integral part of the MOTOREX product for better metalworking results.

The correct machining fluid, be it cutting oil or cooling lubricant, is one of the main success factors in the production process along with the tools and the machine tool. The constant changes have not stopped at small parts turning, and only those who keep themselves up to date will be able to benefit from the advantages of the new technologies in practice.

Valuable experience collected for you

Experiences that you have had yourself often have a positive effect on the learning process. Unfortunately this often also means paying money for an apprenticeship. However, for a commercially aligned company this is nowadays out of the question. This is why it makes sense to learn from the experience of others. At the after-sales service of MOTOREX AG in Langenthal, customers' experiences are therefore recorded anonymously and matrices generated with basic preconditions and measures to be taken. The ever-growing knowledge base compiled in this way is used exclusively to develop products and processes. This means that the experts at MOTOREX can skillfully and rapidly assess and resolve recurrent situations. Many a technical challenge has already

been overcome using the right product from MOTOREX.

Versatile and interesting: The world of small parts turning

Whether your questions deal with the professional care of cooling lubricants or the evaluation of the correct cutting oil for hard-metal machining, the versatile collection of topics will give an authoritative answer to one or other of your questions. Use the fax form on the opposite page and request a free copy, with no commitment on your part, of the article you are interested in, together with other valuable information.

The experts at MOTOREX will also be pleased to help you with any other problems:

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We look forward to hearing your questions!

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MOTOREX Reader Service – Know-how on call

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Portrait of MOTOREX AG ☐

Deco Magazine 17



TOPTECH care and maintenance units ☐

Deco Magazine 21



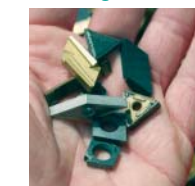
Bringing multi-spindle machines up to speed ☐

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Economical machining of castings ☐

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Noticeably reduce tooling costs ☐

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Care tips for cooling lubricants ☐

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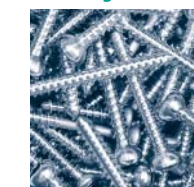
MOTOREX SWISSCUT cutting oils ☐

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The functions of hydraulic fluid ☐

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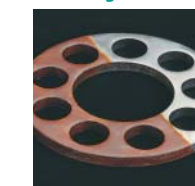
Detail: precise thread whirling ☐

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High-precision reaming ☐

Deco Magazine 15



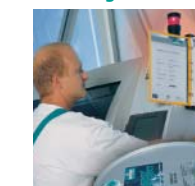
Intact, VOC-free corrosion protection ☐

Deco Magazine 19



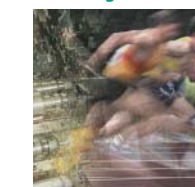
MOTOREX SWISSCOOL cooling lubricants ☐

Deco Magazine 23



The MOTOREX industrial concept ☐

Deco Magazine 27



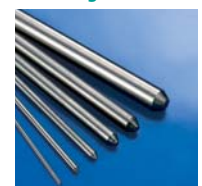
MOTOREX Vmax-Technology ☐

Deco Magazine 16



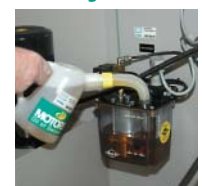
Comparative test ORTHO 400 cutting oil ☐

Deco Magazine 20



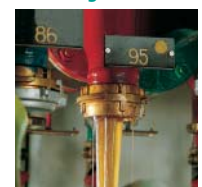
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Deco Magazine 24



MOTOREX Process Fluid Management ☐

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Universal cutting oil MOTOREX ORTHO NF-X ☐

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FIJIAN WARRIOR likes **MOTOREX** green



Hans Appelgren is a die-hard MOTOREX fan – hardly surprising, since he's the MOTOREX importer for Australia, a country which covers no less than 7.7 million km². Since hard-working importers also need a vacation now and then, Hans decided to take a trip to the Fiji islands. This group of 330 islands lies in the South Pacific and can be easily reached by plane from Australia in just a few hours.

The larger islands are volcanic in origin and mountainous; the mountains on Viti Levu are up to 1,323 m high, for example. Apart from this, Fiji also offers coral islands and mangroves. Tropical rain forests lie to the windward side of the mountains, with savannas in their lee. The tropical-maritime climate lends itself to light clothing, and what could be better than a T-shirt from MOTOREX? This picture was taken at a native presentation for tourists. The man portraying the Fijian warrior also commented to Hans: "Nice green on your T-shirt!" Thanks for the compliment!

Do you **know** what...

...USA Today® newspaper has to do with MOTOREX?

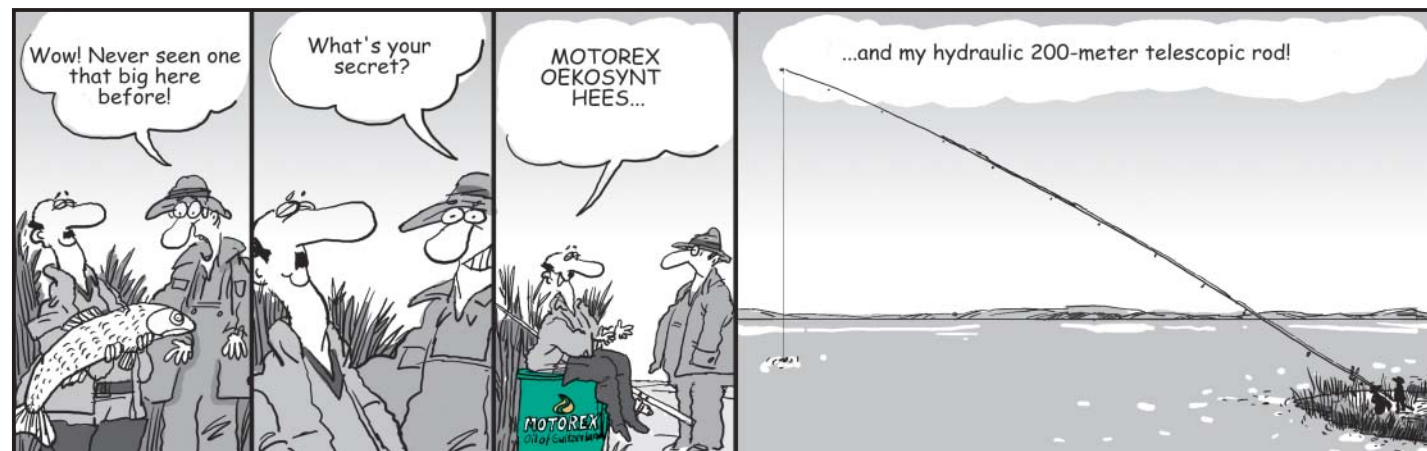
At first glance, there's no direct relationship between MOTOREX industrial products and the globally successful newspaper. Or perhaps there is, as USA Today® is one of 114 newspapers published by the Gannett media group. The presses used to print the group's titles include the gigantic KBA-Colora 18-tower rotary press line that was recently delivered for "The Courier-Journal" in Louisville, Kentucky.



KBA has been successfully using metal-working products from the MOTOREX SWISSLINE to manufacture the components for these high-capacity printing

presses at several of its factories. At the company's Frankenthal site, around 1,350 employees assemble the world's widest gravure equipment and high-capacity folders for all KBA rotogravure machines.

Newspaper printers in particular have to be able to rely 100% on the production facility. KBA attaches great importance to quality, starting right at the beginning with the selection of the processing fluid.



7

good reasons for ORTHO NF-X

- 1 ✓ ORTHO NF-X is suitable for all materials.
- 2 ✓ MOTOREX 'max-technology' maximizes productivity by facilitating higher speeds and feeds.
- 3 ✓ Measurably reduced tool costs and longer tool lives.
- 4 ✓ Very low odor and mist properties; contains no chlorine or heavy metals.
- 5 ✓ Parts can be cleaned easily and thoroughly.
- 6 ✓ The perfect combination of high-end additives and low ester base oil prevents undesirable reactions with machine paint, seals and nonferrous metals.
- 7 ✓ Meets the strict guidelines from manufacturers as Bosch, DaimlerChrysler and others. Ideal for manufacturing implants in the medical industry.

**Try it now –
you will be more
than satisfied!**



MOTOREX
Oil of Switzerland

Fresh: The new **SPORT LINE** outfit.

SPORT LINE outdoor jacket

Modern 4-in-1 jacket with practical pockets and detachable hood. Outer shell 100% nylon Tactel, totally waterproof. With inside mobile phone pocket and net liner of 100% polyester. Inner shell is reversible and can be worn separate, either side out.

Available in sizes S – XXL.

Article no. 7.09 + size



Inner shell reversible: 100% polyester microfleece/100% nylon ribstop



SPORT LINE baseball cap

100% polyester microfiber. One size.

Article no. 7.08

SPORT LINE rain jacket

Outer shell and net liner of 100% polyester.

Totally waterproof.

With detachable hood and practical pockets.

Available in sizes S – XXL.

Article no. 7.04 + size



SPORT LINE rain pants

100% nylon Tactel. Net liner of 100% polyester. Totally waterproof.

4 pockets. Available in sizes S – XXL.

Article no. 7.05 + size



SPORT LINE umbrella

Black and green automatic umbrella with foam rubber handle, fiberglass spokes, cannot be blown inside out in strong winds. Diameter 124 cm

Article no. 4.16

For your order, please use the card in the center of this magazine. Please ask your MOTOREX importer about the availability, price and delivery time of the above articles. Thank you.

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