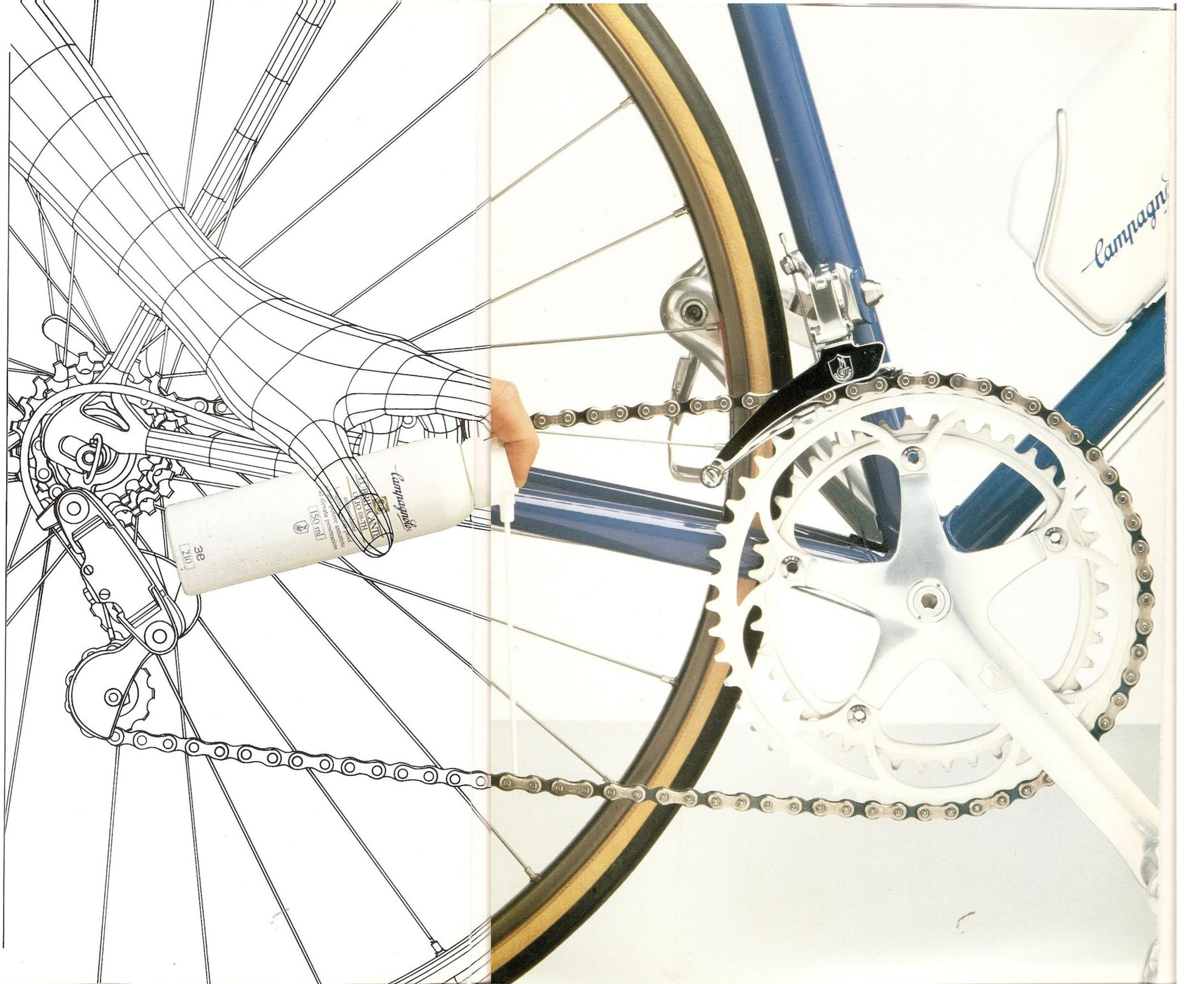
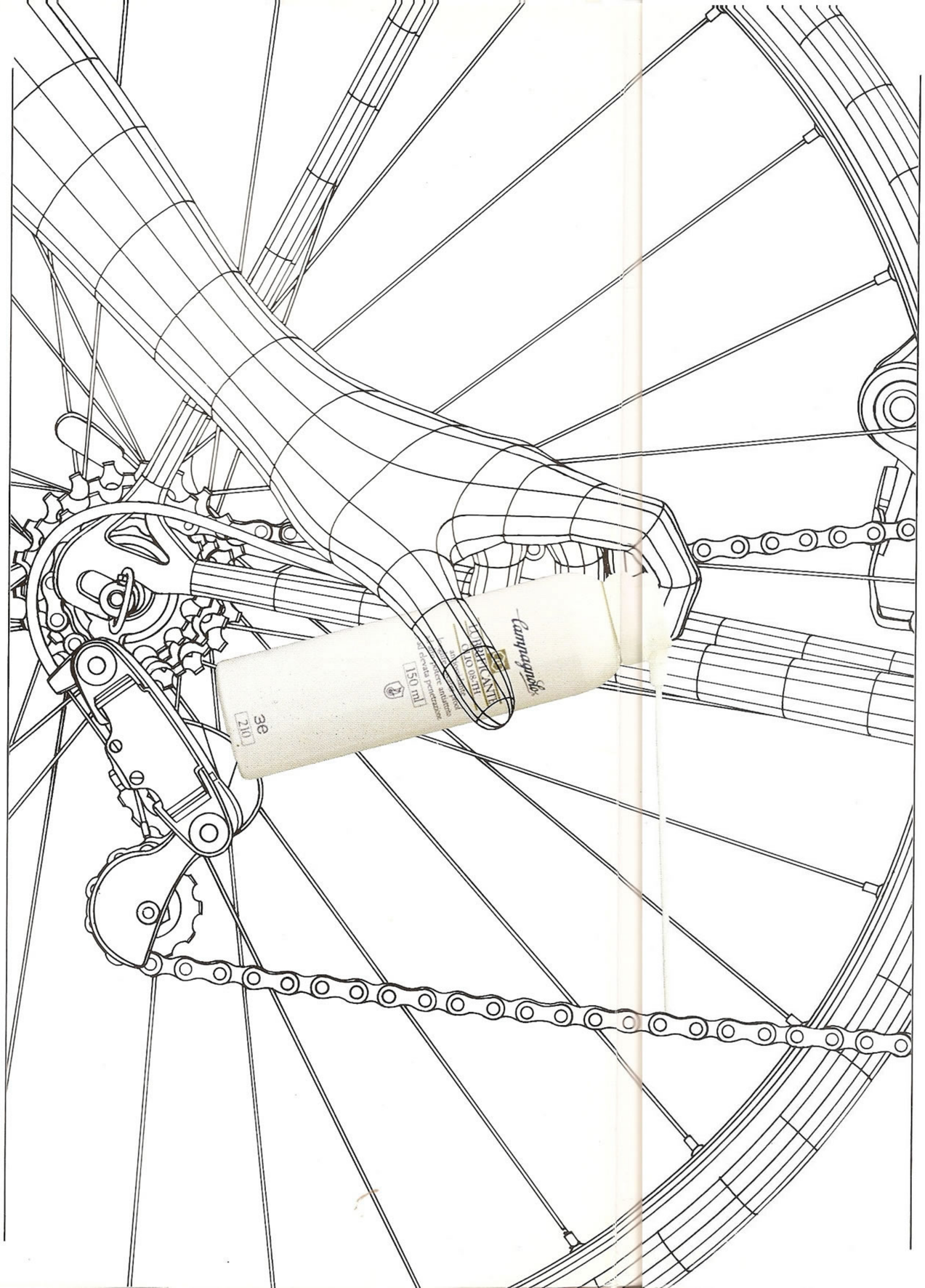
LUBRICANTS

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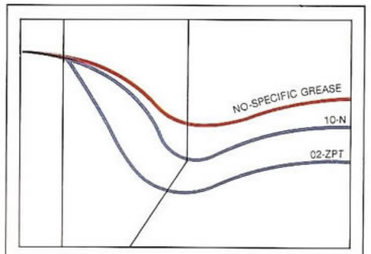
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WHEN TECHNOLOGY BECOMES EMOTION.



LUBRICATION

At first sight it might seem that the lubrication problems connected with the use of a racing bike could easily be solved with traditional types of lubricants. However, study of the particular construction details and uses of sports bicycles rules out the use of lubricants developed for other applications.



COMPARAISON OF THE FRICTION COEFFICIENTS OF LUBRICANTS

To lubricate a bike correctly, two types of lubricant are needed:
- grease for the various bearings
- oil for the chain, freewheel, changers, levers and brakes.

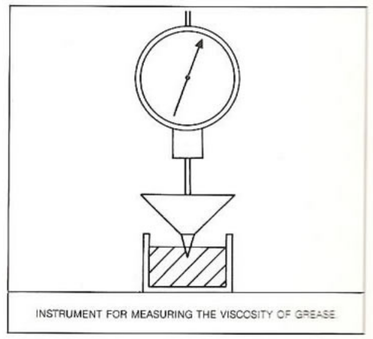
10-N AND 02-ZPT GREASES

The bicycle has to have both the fixed and moving parts of the bearings in contact with the air and exposed to external agents, as it is impossible to have a perfect seal between the moving parts.

Furthermore, as it is human powered, all unnecessary friction must be eliminated.

No matter how carefully assembly is carried out, rainwater or solvents used for cleaning get through the two cups and affect the the bearing surfaces and the ball bearings.

In such cases the moisture causes oxidation and rust can spread quickly, especially when it comes into contact with machined surfaces,



INSTRUMENT FOR MEASURING THE VISCOSITY OF GREASE

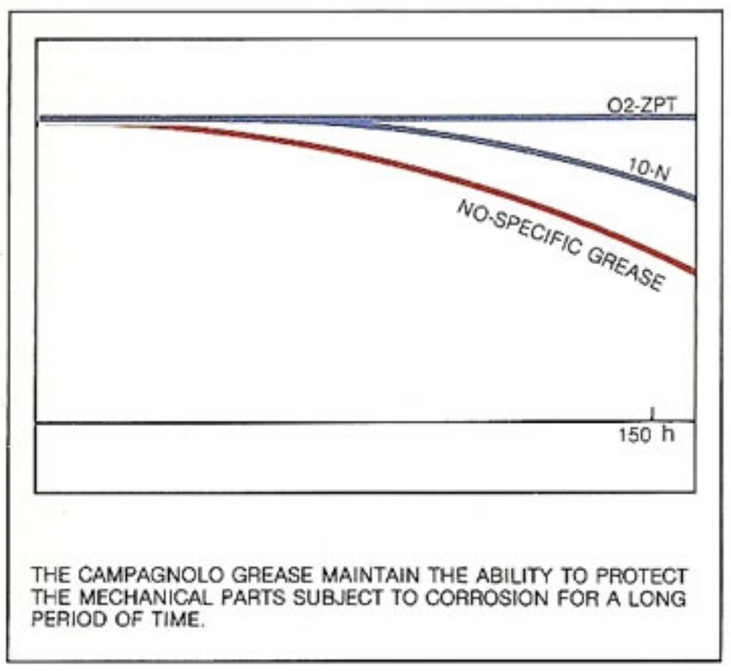
shortening the life of components and affecting the reliability and the effort needed to rotate them.

Bicycle grease must therefore not be soluble in water or detergent. When it is applied it must displace any residual moisture. (That is, it must be water-repellent)

It must prevent dust coming in both by acting as a barrier, and by absorbing it without its chemical and physical properties being altered.

It must also contain anti-corrosive additives which prevent the formation or spreading of rust.

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WHEN TECHNOLOGY BECOMES EMOTION.



THE CAMPAGNOLO GREASE MAINTAIN THE ABILITY TO PROTECT THE MECHANICAL PARTS SUBJECT TO CORROSION FOR A LONG PERIOD OF TIME.

The presence of the grease between the bearings and the ball races leads to a continuous process of deformation of the lumps of grease, which wastes energy. The grease must therefore be quite liquid, but must also adhere well to the bearing surfaces.

A good grease, which, as is well-known, is a mixture of oil and soap, must therefore contain low-density oil.

If the oil is of low density, however, it can easily be squeezed between the bearings and the races; and must therefore contain additives to prevent it being broken down. Naturally, these additives must not give rise to friction caused by deformation, and must therefore be extremely thin.

By taking into account all these contrasting problems and by establishing the correct proportions for the various constituent via a long period of experimentation and research, Campagnolo has produced two special new greases: 10-N; 02-ZPT.

These are greases specially developed for the components and performance of racing bikes.

They have been produced for especially difficult or moist and humid conditions.

The latter characteristic is due to the combined action of the soap with which the grease is formulated and the mineral salts present in significant quantities.

The greases also have a strong anti oxidisation and anti rust action provided by the carefully calculated and balanced additives.

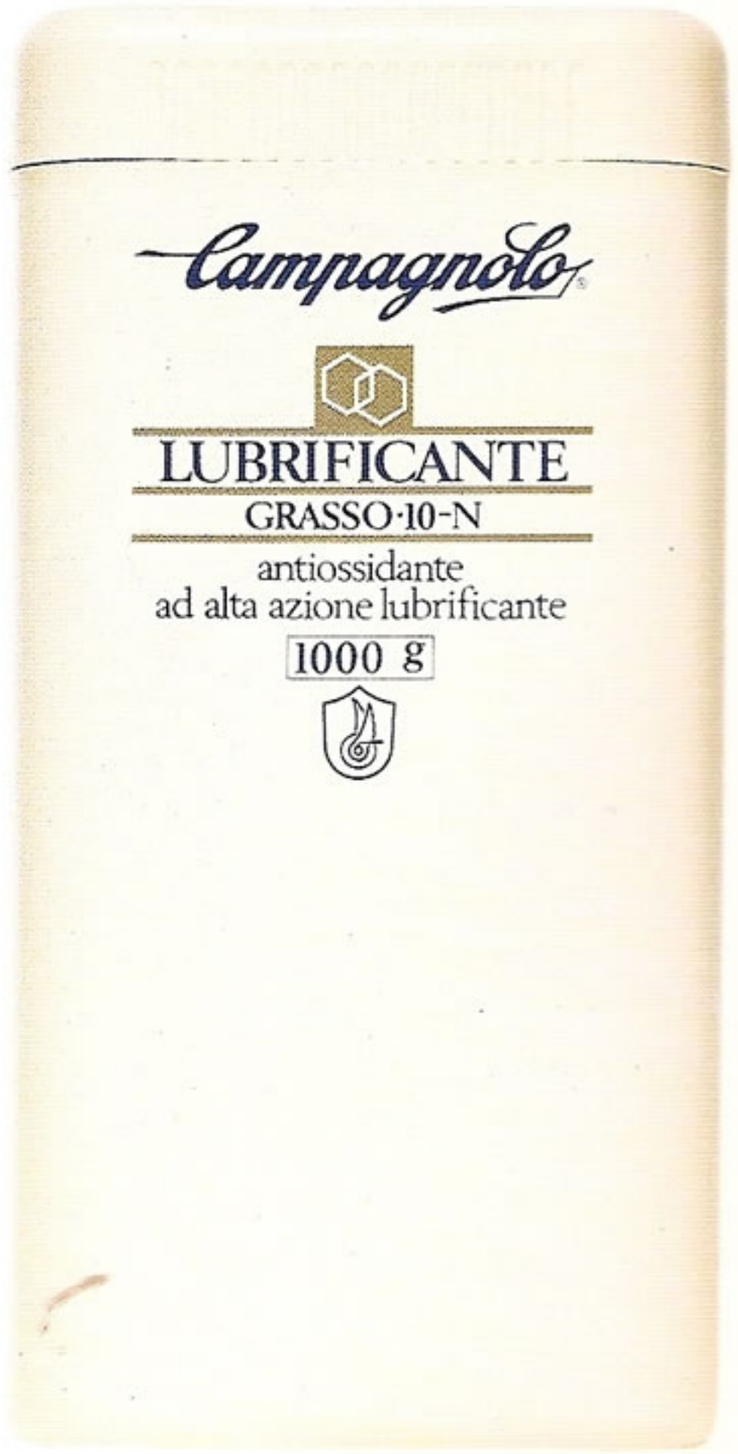
The 02-ZPT grease, in particular, is highly resistant to extreme pressures.

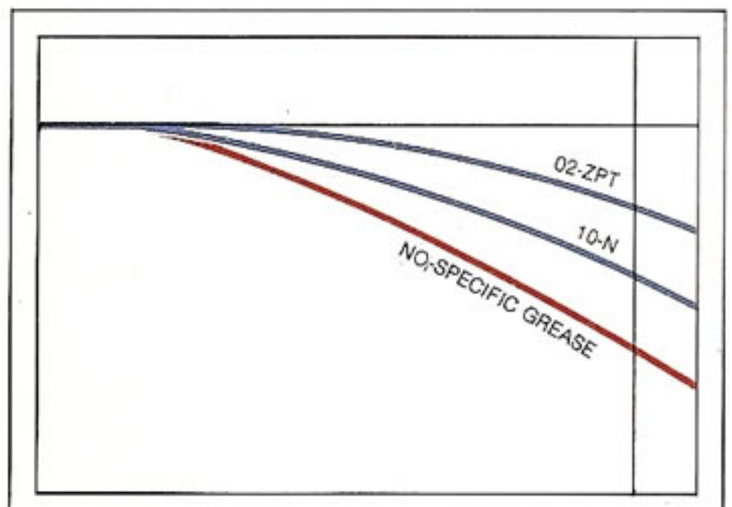
Furthermore, in order to obtain the best possible performance, synthetic, inorganic polymers with lubricating and adhering qualities have been added to the 02-ZPT grease, so that the lubricating film stays in place longer even under high loading.

10-N Grease is supplied in 1 Kg, 500 g and 150 g.

02-ZPT Grease is supplied in 60 g and 150 g tubes.







EVEN AFTER PROLONGED USE, THE VISCOSITY OF THE CAMPAGNOLO GREASE REMAINS CLOSE TO OPTIMAL VALUES.

08-TH OIL

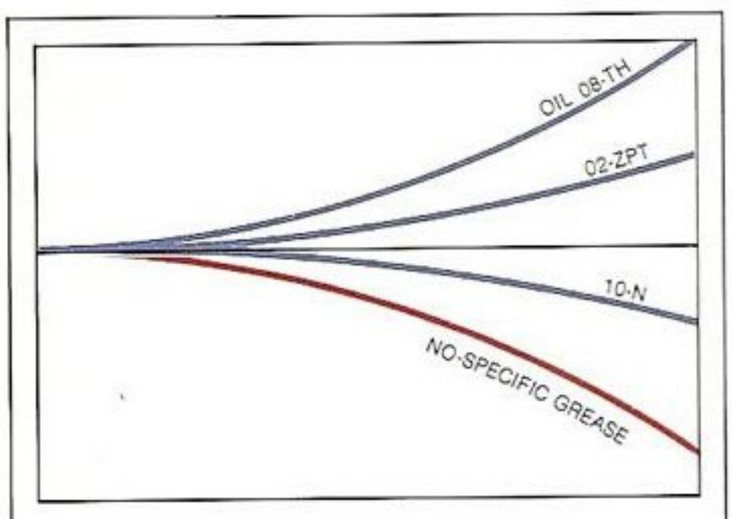
Any cycle user knows that a well - lubricated chain means easier pedalling.

However, the chain should be lubricated before every ride as the oil does not have a very long effective life, and even then, should you get caught in the rain, you will soon hear ominous sounds from the chain that mean that it is no longer lubricated and that the plates and rollers of the chain are in direct contact with the teeth on the chainrings and freewheel.

The absence of lubrication increases friction and wear on the parts in contact and increases the effort necessary to achieve the same level of performance.

Furthermore, more lateral force is needed to operate the changer, the freewheel has a braking effect, and the brake and gear levers are stiffer.

In fact the whole bio-energetic-mechanical balance that the rider has become used to is upset.



THE OIL AND GREASES ARE WATER-REPELLENT AND SO FUNCTION EVEN IN RAIN CONDITIONS. THE 08-TH AND 02-ZPT GREASES ACTUALLY IMPROVE IN WATER.

Lastly, it is essential that the oil penetrates the tiniest gaps in order to ensure complete protection.

From the analysis of these problems, Campagnolo has produced a special oil: 08-TH.

This is a synthetic lubricating oil with excellent coverage and adhesion.

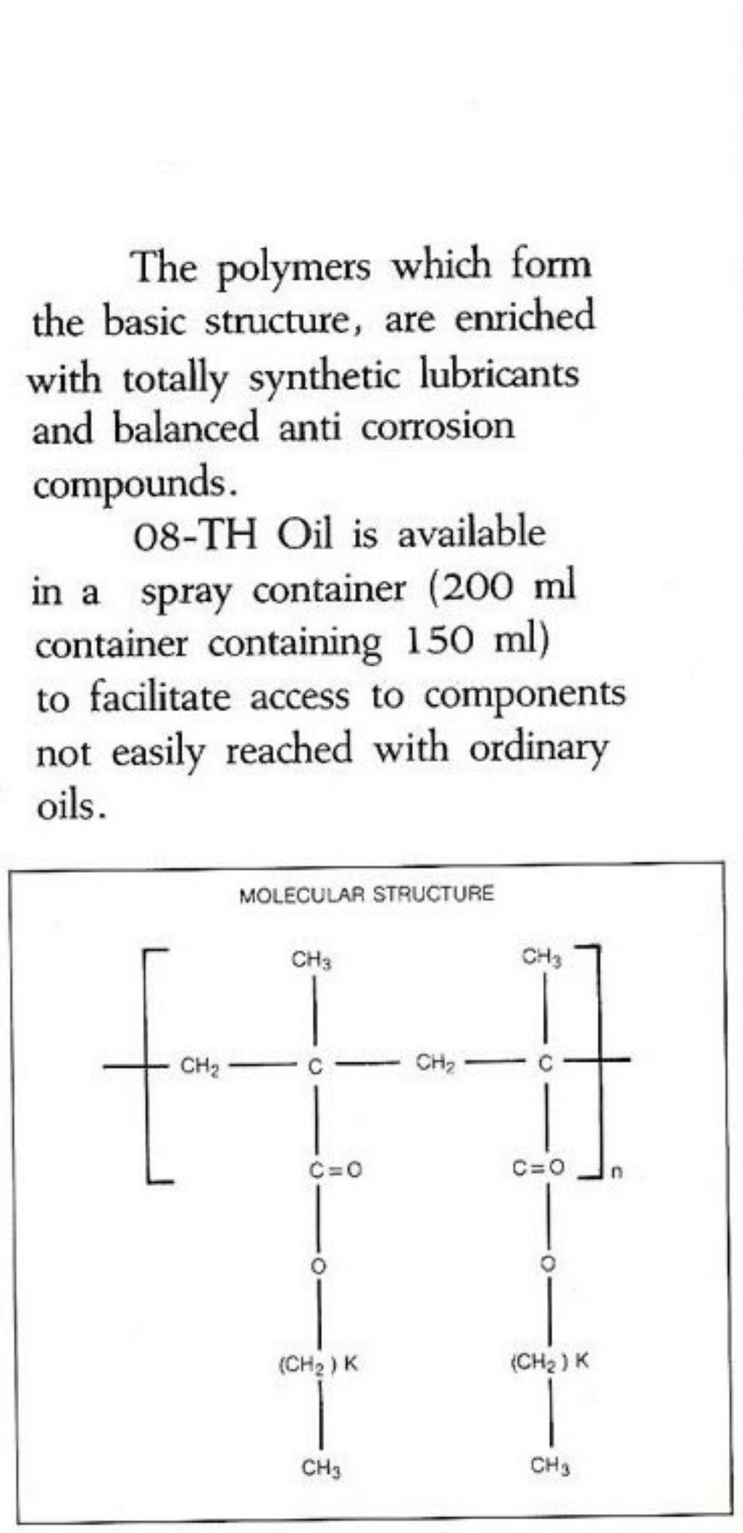
Is has been specially developed for sports cycle components where it is necessary to provide lubrication which meets the following requirements:

- resistance to loads
- strong and prolonged adherence of the lubricating film
- resistance to chemical and atmospheric agents
- resistance to washing
- prevents oxidation or rusting on the treated surfaces
- highly penetrating

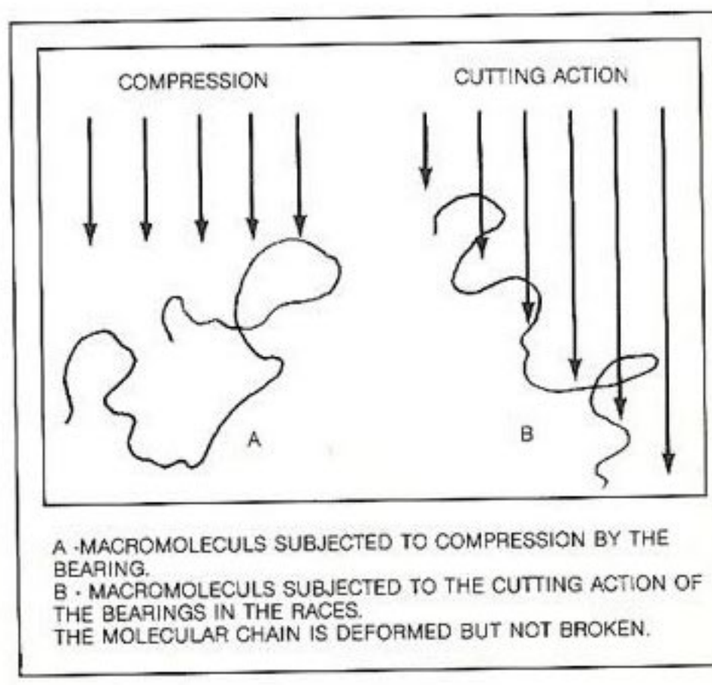


The polymers which form the basic structure, are enriched with totally synthetic lubricants and balanced anti corrosion compounds.

08-TH Oil is available in a spray container (200 ml container containing 150 ml) to facilitate access to components not easily reached with ordinary oils.



Finally, its chemical make-up and molecular structure ensures even distribution over the treated surfaces.



A -MACROMOLECULS SUBJECTED TO COMPRESSION BY THE BEARING.
B - MACROMOLECULS SUBJECTED TO THE CUTTING ACTION OF THE BEARINGS IN THE RACES.
THE MOLECULAR CHAIN IS DEFORMED BUT NOT BROKEN.

LUBRICANTS

GREY: SERVICES
SYMBOL: LUBRICANTS

CODE	PRODUCT	CONFECTION	NET WEIGHT
0100022	GREASE 10-N	JAR	1000 g
0100021	GREASE 10-N	JAR	500 g
0100020	GREASE 10-N	JAR	150 g
0100027	GREASE 02-ZPT	TUBE	150 g
0100026	GREASE 02-ZPT	TUBE	60 g
0100030	OIL 08-TH	SPRAY	150 ml

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