EN

KOMATSU

Lubricants and coolant

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Diesel engine oil
Hydraulic oil
Axle oil
Transmission oil
Coolant

Superior protection

A complete range of recommended lubricants for Komatsu Forest

Our recommended lubricants are carefully selected and tested to meet Komatsu Forest's technical requirements according to the Forest Komatsu Engineering Standard (FKES). This standard is specifically developed for forest machines and ensures high performance and durability in the tough environments where our machines operate. When the lubricants are used according to our recommendations, they help to reduce oil consumption, lower maintenance costs, and increase the machine's reliability, productivity, efficiency, and service life.

Forest Komatsu Engineering Standard (FKES)

Our technical department defines lubricants that meet FKES as products offering high performance and long durability – specifically tailored to the requirements of forest machines. By applying the "best of the best" philosophy, we ensure that every product recommended by Komatsu Forest meets our high standards of quality.

Type		FKES	SAE/ISO	Other main specifics
Engine oil	EO10W40-LA	FKES 45-300-160	SAE 10W-40	API CK-4, ACEA E11, E9, E7
Engine oil	EO15W40-LA	FKES 45-300-160	SAE 15W-40	API CK-4, ACEA E11, E9, E7
Hydraulic oil	HO46-HM	FKES 45-300-160	ISO VG 46	DIN 51524-3 (HVLP oil)
Gear Oil	GO80W90	FKES 45-300-160	SAE 80W-90	API GL-5
Gearbox oil	GBO80W90	FKES 45-300-160	SAE 80W-90	API GL-4
Gearbox oil	GBOS75W80	FKES 45-300-160	SAE 75W-80	API GL-4
Axle oil	AXO80W90	FKES 45-300-160	SAE 80W-90	API GL-5/GL-4
Axle oil	AXOS75W90	FKES 45-300-160	SAE 75W-90	API GL-5/GL-4
Coolant	Ethylene	FKES 45-300-160	SAE J1034	BS6580:1992, ASTM D3306
Coolant	Propylene	FKES 45-300-160	SAE J1034	BS6580:1992, ASTM D3306

All products are tested and approved according to the Forest Komatsu Engineering Standard (FKES). Availability and range may vary depending on the market.

The FKES concept

The table below illustrates how the Forest Komatsu Engineering Standard (FKES) is applied to the recommended diesel engine oil for Komatsu Forest machines. The oil is designed not only to meet applicable standards such as API CK-4 and JASO DH-1/DH-2, but also to exceed them through additional requirements for functionality and performance.

Performance	API CK-4	JASO DH-1/DH-2	Komatsu Forest (FKES)
Piston deposit	✓	✓	✓
Bearing corrosion	✓	✓	✓
Valve train wear		✓	✓
Soot dispersancy		✓	✓
Oxidation stability		✓	✓
Deposit control (Hot tube test)		✓	✓
Foaming		✓	✓
Volatility		✓	✓
Shear stability		✓	✓
Seal compatibility		✓	✓
Friction performance			✓
Filterability			✓
Rust protection			✓

	5 liter	20 liter	209 liter	1000 liter
	✓	✓	✓	
	✓	✓	✓	
		✓	✓	✓
		✓	✓	✓
	✓		✓	
	✓		✓	
		✓	✓	
		✓	✓	
		✓		
			✓	

Genuine Diesel engine oil from Komatsu Forest

Our engine oils are specifically developed to meet the demands of today's Diesel engines in forest machines, including engines equipped with diesel particulate filters (DPF). The oil is certified according to API CK-4 and ACEA E7/E11 standards, and tested according to the Forest Komatsu Engineering Standard (FKES). It provides excellent protection against wear, deposits and oxidation, helping to ensure high operational reliability and a long service life for engine components.

Features	Benefits	Consequences of using incorrect oil
• High base number (TBN*)	• High base number is crucial for neutralising corrosive acids formed during the combustion process	• Corrosive wear on bearings and excessive oil oxidation
• Oxidation stability	• Excellent oxidation stability is required to meet the strict demands of Komatsu's heated piston test	• Excessive oil oxidation leads to deposits in the engine and oil degradation
• Wear-reducing performance	• Superior wear reduction protects the surfaces inside the engine	• Excessive wear reduces engine performance
• Outstanding cleaning ability	• Outstanding cleaning ability is necessary to keep engine surfaces clean	• Engine deposits and reduced performance

*TBN: Total Base Number. A measure of the reserve alkalinity or reserve acid neutralisation remaining in the oil.

Genuine Hydraulic oil from Komatsu Forest

Our hydraulic oil HO46-HM is a high-performance oil that meets the requirements for Komatsu Forest machines and is tested according to the Forest Komatsu Engineering Standard (FKES). With an ISO VG 46 viscosity grade, it is optimised to withstand temperature fluctuations and heavy loads. The oil provides effective protection against wear, foaming and corrosion – contributing to smooth and reliable operation in both forwarders and harvesters.

Features	Benefits	Consequences of using incorrect oil
• Properties that reduce high-pressure wear on hydraulic pumps, motors and control valves	• No worn bearing shells or large servo pistons	• High-pressure wear on bearings or servo pistons leading to malfunction
• Wear-reducing properties for hydraulic pumps, motors and control valves	• Reduced wear in cylinder tubes and on piston heads	• Excessive wear results in loss of performance
• Adapted friction coefficient for smooth braking function on hydraulic motors	• Correct function of hydraulic motor brakes, increased safety	• Extended stopping distances increase the risk of personal injury
• Varnish deposit prevention properties for pumps and motors	• No varnish deposits on hydraulic components	• Sticking of hydraulic components leads to jerky operation or hydraulic failure

Genuine Gear oil from Komatsu Forest

GO80W90 is a mineral-based GL-5 oil specifically developed for use in bogie housings, wheel ends, and slew drives. It provides excellent protection against pressure and wear, ensuring long-lasting performance even in demanding conditions. Tested according to FKES standards to meet our high requirements for functionality and reliability.

Features	Benefits	Consequences of using incorrect oil
• Pressure and wear protection under heavy loads	• Provides strong protection for gears and pinions in the gearbox	• Excessive wear can cause abnormal noise and reduced service life
• Oxidation and temperature stability	• Maintains oil properties during long operating periods	• The oil degrades faster and loses its lubricating properties
• Corrosion protection and foam control	• Protects sensitive components such as bearings and seals	• Rust and foam formation can lead to downtime or component failure
• Seal compatibility	• Enables safe use in gearboxes without leakage issues	• Leakage or damage to seals when using incompatible oil

Genuine Gearbox oil from Komatsu Forest

For gearboxes requiring stable performance under varying temperatures and high loads, Komatsu Forest offers two options. GBO80W90, a mineral-based GL-4 oil, and GBOS75W80, a synthetic GL-4 oil with exceptional flow properties at low temperatures. Both oils are designed to provide consistent protection and extended service life in demanding applications.

Features	Benefits	Consequences of using incorrect oil
• Stable performance under varying temperatures	• Ensures consistent protection in gearboxes during extreme conditions	• Loss of lubrication leading to gear and bearing damage
• High load carrying capacity	• Reduces friction and wear under heavy loads	• Increased friction and potential overheating
• Exceptional flow properties at low temperatures (GBOS75W80)	• Facilitates smooth operation during cold starts	• Difficult cold starts and increased component wear
• Seal compatibility	• Prevents leaks and maintains seal integrity	• Seal degradation and risk of leakage

Genuine Axle oil from Komatsu Forest

AXO80W90 is a durable axle oil with high load-carrying capacity, developed to protect final drives and axles in demanding forestry environments. The oil is classified according to API GL-5/GL-4 and tested according to the Forest Komatsu Engineering Standard (FKES). It provides reliable protection against wear, even at low speeds and high torque, contributing to long service life and consistent performance.

Features	Benefits	Consequences of using incorrect oil
• Cooling and friction stabilisation	• Prevents overheating and heat cracks on clutches, brakes, discs and plates in the gearbox	• Loss of gear function and need for gearbox repair
• Wear- and pitting-reducing properties	• Maximum protection for rear axle gears, pinions and bearings	• Excessive wear on gears, gear breakage or damaged bearings that can cause machine downtime
• Corrosion and rust protection properties	• Maximum protection for parts made of steel and copper alloys	• Corrosion of critical components such as bearings, gears or parts in hydraulic pumps
• Seal compatibility	• Reduced leakage frequency	• Increased leakage and damage to seals ultimately leading to complete oil loss and critical failure due to lack of lubrication

AXOS75W90 is a part-synthetic GL-4/GL-5 oil developed to protect gears and axles in demanding forestry applications. With a viscosity grade of 75W-90, it provides excellent wear protection, thermal stability, and shear resistance under high torque and varying temperatures. The oil ensures consistent performance and extended oil life, meeting Komatsu's stringent FKES standards for reliability and durability.

Features	Benefits	Consequences of using incorrect oil
• Part-synthetic GL-4/GL-5 formulation	• Provides robust protection for gears and axles under high torque	• Increased wear and reduced component lifespan
• High shear stability	• Maintains viscosity under heavy loads and temperature fluctuations	• Oil breakdown and loss of protective properties
• Excellent thermal stability	• Reduces oil degradation and extends service intervals	• Potential overheating and premature oil oxidation
• Corrosion protection for metals	• Protects against rust and corrosion in demanding environments	• Risk of corrosion and rust build-up

Genuine coolant from Komatsu Forest

Komatsu Genuine Coolant is a high-performance, pre-mixed coolant available in ethylene and propylene glycol variants. Both provide reliable protection against freezing, overheating, and corrosion, ensuring optimal performance in demanding conditions.
The choice of variant depends on environmental factors, but both meet Komatsu Forest specifications and international standards, including BS6580:1992, ASTM D3306, and SAE J1034. Free from nitrites and amines, the coolant includes corrosion inhibitors to protect system metals, including aluminium.
With long-lasting chemical stability, Komatsu Genuine Coolant keeps your engine protected, so you can focus on your work.

Features	Benefits	Consequences of using an incorrect product
• Protects against freezing and overheating	• Safe operation in both low and high temperatures	• Risk of engine overheating or ice formation in the cooling system
• Corrosion-inhibiting properties	• Extends the service life of cooling system components	• Internal damage to radiator, pump, pipes and seals
• Stable chemical composition	• Long-lasting performance, minimising the need for frequent changes	• Deteriorated protection over time, increasing the risk of operational disruptions
• Pre-mixed and easy to use	• Safe refilling – no margin for error when mixing	• Incorrectly mixed coolant can impair protection and cause damage

Genuine Parts

Keeping your Komatsu truly Komatsu

Genuine Parts are carefully chosen to meet Komatsu's quality standards. We offer original spare parts, accessories, and equipment designed specifically for your Komatsu machine, as well as workwear and accessories. Each part is developed to work seamlessly with your machine, ensuring reliability and a longer machine life. By choosing genuine parts, you help keep your Komatsu running smoothly for years to come.

Scan the QR code for all spare parts and accessories

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