

SASH

LUBRICANTS

OFF-ROAD GUIDE



INDEX

1 - ENGINE OILS

2 - TRANSMISSION & DRIVE TRAIN OIL FOR
TRANSSIONS, WET BRAKES AND FINAL DRIVES

3 - SUMMARY

SASH

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ENGINE OILS



MASTER ULTRA THPD SAE 15W-40 / 20W-50

API: SN/CI-4 ACEA A3/B4 & E7
MAN M3275 IVECO-PEGASO
DAF XF Renault RLD-2
MB 229.1, 228.3 Scania LDF
Volvo VDS-3

SASH DEO SAE 15W-40

API: CI-4/CH-4/CG-4/CF-4/CF/SL
CAT ECF-2
ALLISON C-4
VOLVO VDS-3
MACK EO-M Plus

MASTER CK SAE 15W-40 / 15W-50

API CK-4, ACEA E7 / E9
MB 228.51, MAN M-3575, MAN M3271-1
CAT ECF-3, MTU 3.1, Ford WSS-M2C171-F1
Cummins CES 20086, CES 20081
Volvo VDS-4.5, MACK EOS-4.5, DQC IV-10 LA
Renault RLD-4, IVECO TLS E9

GALACTIC CJ-4 SAE 15W-40 / 10W-40

ACEA E9/E7 VOLVO: VDS-4/VDS-3
API: CJ-4/SN
MACK EO – M+ MAN M 3575/3275
RENAULT RVI RLD-3 MTU Type 2.1,
MB 228.31/228.3 Cummins CES 20081
SCANIA Low Ash CAT ECF 1A,2A,3

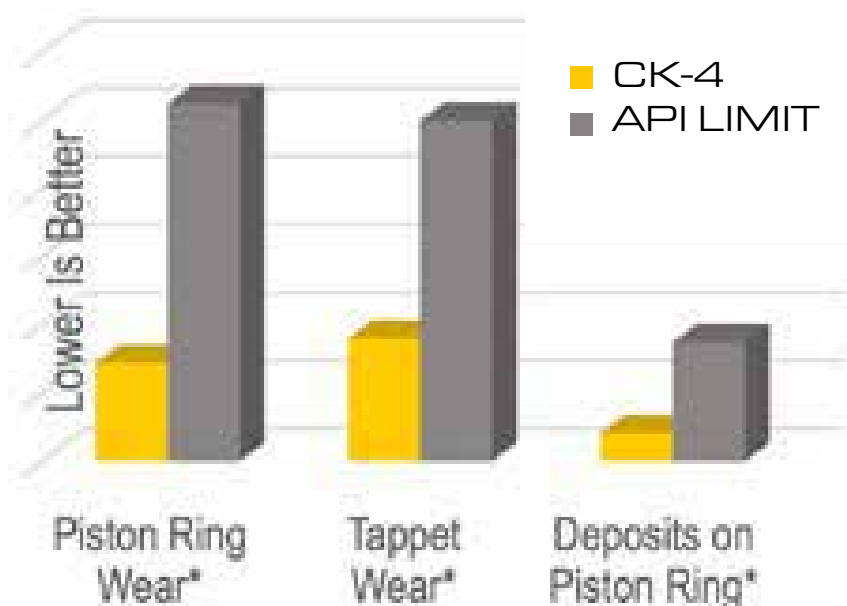
GALACTIC CK-4 E9 SAE 15W-40 / 10W-40

API: CJ-4/ CI-4 Plus/CK-4 ACEA E9
MB 228.31 VOLVO: VDS-4.5
MTU Type 2.1 MACK EO – S-4.5
CUMMINS CES 20086 CAT ECF-3
RENAULT RVI RLD-4

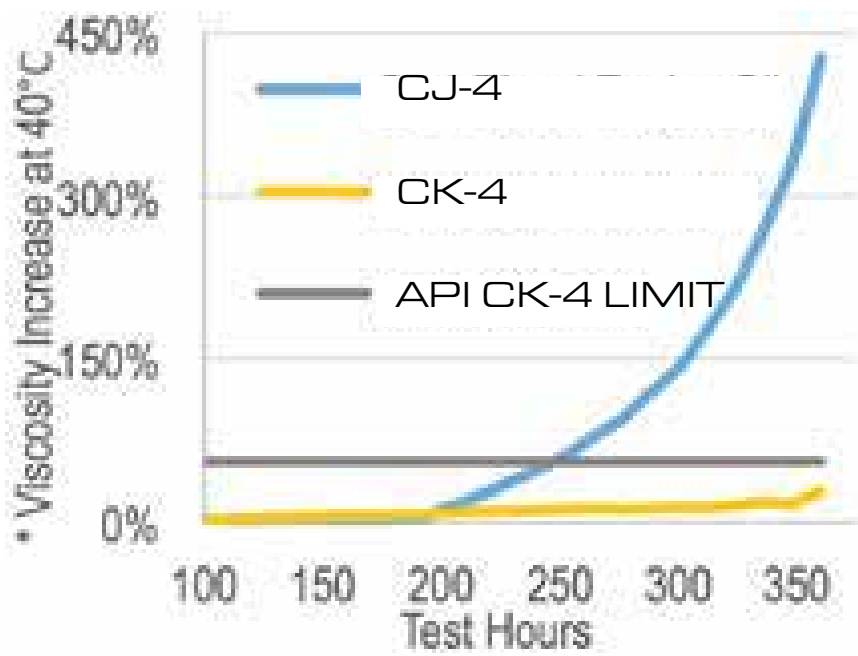
WHY TO CHOOSE CK-4 MODELS

We manufacture our products with high TBN for to be compatible in places where diesel has high % sulphur.

With CK models you can have 1 product for all your operations.



Less wear and fewer carbon deposits lead to a longer service life of the component. With a CK-4 lubricant model you can save a great quantity of money



Maintaining constant viscosity in the time results in better lubrication and protection of mobile components.

SASH oils are formulated to provide optimum performance and motor protection for all engines operating under all conditions and severity levels, and in all applications.

- They are ideal for mixed fleets and for trucks heavy duty road
- Meets requirements for motors with aftercare devices that require API CK-4 or CJ-4 diesel engine oil
- It is compatible with API oil categories

Previous: API CJ-4, CI-4, CI-4 PLUS and CH-4

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TRANSMISSION & DRIVE TRAIN OIL FOR
TRANSSIONS, WET BRAKES AND FINAL DRIVES

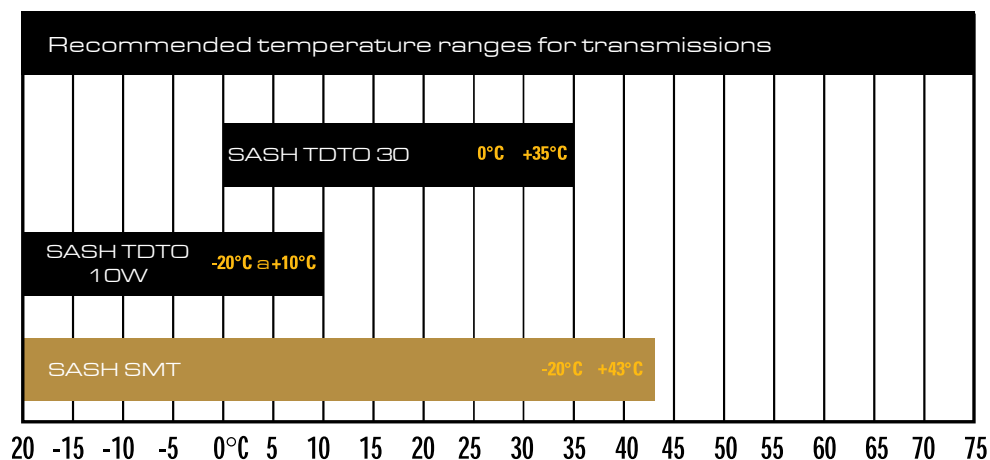


CHOOSE THE RIGHT PRODUCT

SASH TDTO	SASH SMT	SASH FDO	SASH FDO SYNT
Transmission and drive train oil for transmissions, wet brakes and final drives.	Multiseason transmission and drive train oil for transmissions, wet brakes and final drives.	Final drive axle oil for front wheels, differentials and final drives of off-highway trucks and final drives of large track-type tractors. FDO allows for extended drain intervals in these systems.	A fully synthetic final drive axle oil for front wheels, differentials and final drives of off-highway trucks and final drives of large track-type tractors. designed for high production applications, where uptime is critical.
Use when:	Use when:	Use when:	Use when:
Seeking up to 2,000 hours between drain intervals.	Seeking up to 2,000 hours between drain intervals.	Seeking to extend the drain interval in these systems – up to 4,000 hours of operation.	Seeking to extend the drain interval in these systems – up to 8,000 hours of operation.
Wide temperature variations are not expected on your job.	Seeking to utilize a single fluid capable of operating through wide temperature ranges, including the elimination of costly seasonal fluid changes.		Maximizing the machine production is the most important criteria.
SASH TDTO is available in a viscosity to suit your needs.	SASH SMT is designed to operate in transmission temperature ranges from -20° C to 43° C.		
The proper disposal of used oil is easy and inexpensive.	The disposal costs of used oil are high – or doing so is difficult.	The disposal costs of used oil are high – or doing so is difficult.	The disposal costs of used oil are high – or doing so is difficult.

Formulated to meet the most stringent standards.

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POWERSHIFT TRANSMISSIONS *

Season	Oil Type °Celsius	Recommended Ambient Temperature Range	
		min.	max.
Summer	SASH TDTO 30	0	+35
Winter	SASH TDTO 10	-20	+10
Multi-Season	SASH SMT	-10	+35

CENTAURO SMT (TO-4M) can be used in multiple compartments, such as transmission, wet brakes, and hydraulics, reducing the number of oils required to support the machine. CENTAURO SMT can reduce the number of oils required from four to two.

Compartment	Fluids without SMT	SASH Fluids
Engine	SASH DEO 15W-40	SASH DEO 15W-40
Transmission	SASH TDTO 30	SASH SMT
Hydraulics	HIDROL - CAT 10	SASH SMT
Wet Brakes	SASH TDTO 10	SASH SMT

SASH SMT is a multigrade synthetic blend (partial synthetic) oil formulated for use in powershift transmissions, wet brakes, and hydraulic systems. It provides a balance of static and dynamic friction characteristics with metallic and nonmetallic materials, ensuring increased load-carrying capacity and component durability. SASH SMT uses a blend of high-quality mineral oil and synthetic base oils, along with a shear-stable Viscosity Index Improver, to provide sufficient hightemperature film thickness. SASH SMT utilizes additive technology developed for an optimum balance between clutch friction disc and gear wear requirements over a wider temperature range than what is possible with monograde Cat TO-4 oils.

SASH SMT satisfy new Cat TO-4M standard covering the use of multigrade oils in Cat transmissions, hydraulics, and wet brakes.

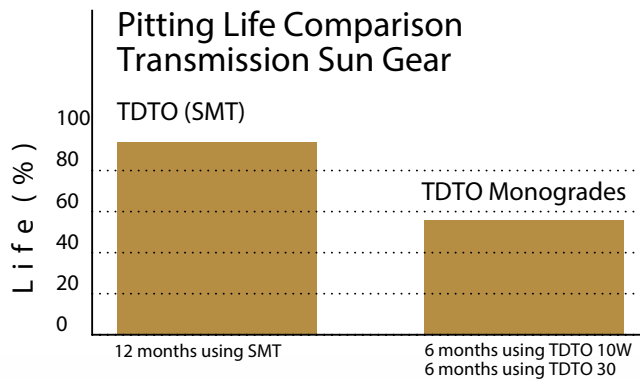
*** It can be changed for MASTER CK & GALACTIC CK-4 E9
CHECK YOUR MANUAL OR contact any of our professionals

SASH SMT provides all the same benefits of SASH TDTO 10W and SASH TDTO 30 by:

- increasing clutch disc life up to 40%.
- controlling brake chatter.
- increasing machine breakout force.
- providing greater machine rim pull.
- providing compatibility with seals and elastomers, including fluoroelastomers, used in drivetrain and hydraulic systems.

CENTAURO SMT provides:

- operation over a broad temperature range.
- improved transmission performance and efficiency in cold weather.
- extended oil drain capability.
- multiple compartment use in transmissions, wet brakes, and hydraulic.
- improved transmission gear life versus usinCAT10 / CAT 30.



SASH TDTO & SASH SMT are developed for satisfy the performance required by Cat machines. We develop our lubricants with additional tests for ensure the best performance for your machines.

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SASH FDO

Final Drive and Axle Oil

SASH FDO ensures optimum life and performance when used as recommended in final drives and axles. It is recommended for use in final drives and axles.

This oil should not be used in compartments which contain friction material, unless FDO performance quality level has been specified.

NOT FOR USE IN ENGINE COMPARTMENTS.

SASH FDO is formulated for use in equipment final drives, axles, bevel gears and differentials in which gear and bearing loads and temperatures are high. It provides superior contact fatigue life to gears and bearings.

It is designed specifically for protection of highly loaded components. It does not develop enough friction to satisfy the requirements of most brakes and clutches.

It should not be used in clutch and brake compartments.

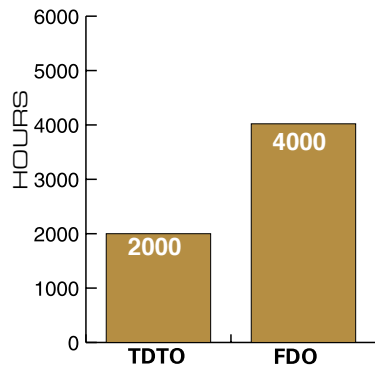
SASH FDO also:

- Is compatible with TDTO oils and the seals for their compartments.
- Provides excellent protection against rust and copper corrosion.
- Minimizes foaming.
- Oxidizes at a low rate for improved oil life.



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OIL RECOMMENDED CHANGE Final Drive and Axle Oil



Performance of SASH FDO is higher than conventional TDTO.
It is developed for increase the time life of the lubircant and save money investment.



SASH FDO SYNT

Synthetic final drive and axle oil for Off-Highway Trucks and large Track-Type Tractors.

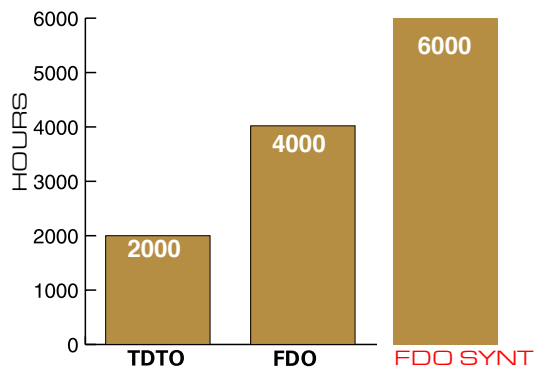
SASH FDO SYN is recommended for use in:

- Preferred lubricant for Off-Highway Truck and carrydozer front wheels, differentials and final drives operating under high load factors
- Compatible with final drives and axles that previously specified FD or TO-4 lubricants and do not contain friction material

Features

- Extended Drain Intervals—Extends drain intervals up to a factor of three in Off-Highway Truck final drives, as compared to TDTO and TO-4 oils.
- Minimal Foaming—Formulated to protect against the damaging effects of air.
- Longer Bearing and Gear Life—Has demonstrated the capability to double bearing life and quadruple gear life when compared to TDTO and TO-4 oils used in offhighway-truck final drives.

OIL RECOMMENDED CHANGE Final Drive and Axle Oil



SUMMARY

OFF ROAD Lubricants			Viscosity Grade
API CI-4	ACEA E7	SASH DEO	SAE 15W-40
API CI-4	CAT ECF-2	SASH DEO	SAE 15W-40
API CK-4	CAT ECF-3	MASTER CK	SAE 15W-40 / SAE 15W-50
API CK-4	CAT ECF-3	GALACTIC CK-4 E9	SAE 15W-40 / SAE 10W-40
Transmission/Drive Train Oil		SASH TDTO	10W
			30
			50
		SASH SMT	Multigrade Synhtetic
Automatic Transmission Fluid		ATF DRAIVER DEXRON IIIH	Multigrade Synhtetic
Final Drive and Axles Oil		SASH FDO	SAE 60
		SASH FDO SYN	Multigrade
GearOil		ENDURANCE - W	SAE 80W-90
			SAE 85W-140
Hydraulic Oil		HIDROL - CAT	10W
			20W
			30
Multipurpose Tractor Oil		UTTO FAMRER LZS	SAE 10W-30



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