

D3 Gold - Synthetic



D3 GOLD is a fully-synthetic heavy duty diesel engine oil for high performance vehicle such as sport utility vehicle (SUV), 4 wheels drive and new pick up truck. It is the highest yet in protection and bearing corrosion control technology with API CJ-4/SM. D3 GOLD CJ-4 performance upgrade over CI-4 and CI-4 plus with advanced technology of synthetic lubricant and additive. Have many advantage such as antiwear (protect engine), reduce soot (clean engine) etc.

EXTRA PROPERTIES

- Excellent to reduce wear when start engine.
- Good synthetic oil to strengthen oil film although use in long time, so it has oil change period of 45,000 km.*
- Improve washing and cleaning properties to clean piston and piston ring to make highest power.
- Special additive to protect valve wear, piston deposit and reduce soot to make engine clean.

APPLICATION

For multipurpose and sport utility vehicle (MPV/SUV), 4-wheels drive (4WD), high performance diesel engine with direct injection (DI) and commonrail (CDI) systems, diesel engine equipped with exhaust system such as DPF, SCR, DOC and EGR.

MEET REQUIREMENTS

- API CJ-4/SM
- MBp 228.31
- ACEA E7-08/E9-08
- VOLVO VDS-4
- CUMMINS CES 20081
- RENAULT RLD-3
- MAN 3275/3575
- CATERPILLAR ECF-2/ECF-3
- Detroit Diesel Power Guard 93K218, 93K215, 93K214
- MACK EO-O Premium Plus / EO-M / EO-M Premium plus / EO-N premium Plus

TYPICAL INSPECTION

PROPERTIES	SAE 5W-30
Appearance	Bright & Clear
Color	Report
Density @ 15 °C, g/cm ³	Report
Flash Point (COC), °C	205 Min
Foam Test (Seq II), mL/mL	50/0 Max
Pour Point, °C	-30 Max
Kinematic Viscosity @ 100 °C, cSt.	11.0-12.0
Viscosity Index	145 Min
Cold Cranking Simulator @ -30 °C, cP	6400 Max
TBN, mg KOH/g	10 Min

Packages: 6 litres and 1 litre

* Use for normal conditon test by standard MB228.31, MAN 3275
Change oil filter every 10,000 km.

D3 Turbo Plus – Semi Synthetic



D3 TURBO PLUS is a semi-synthetic heavy duty diesel engine oil for high performance vehicle such as sport utility vehicle (SUV), 4 wheels drive and new pick up truck. It is the highest yet in protection and bearing corrosion control technology with API CI-4. D3 TURBO PLUS have many advantage of semi-synthetic oil and additives such as antiwear (protect engine), reduce soot (clean engine), etc.

- Improve washing and cleaning properties to clean piston and piston ring to make highest power
- Special additive to protect valve wear, piston deposit and reduce soot to make engine clean
- Oil change is 15,000-20,000 km vary to driving condition

APPLICATION

- For multipurpose and sport utility vehicle (MPV/SUV), 4-wheels drive (4WD), high performance diesel engine with direct injection (DI) and commonrail (CDI) systems, diesel engine equipped with turbo-charged and EGR systems. Furthermore, it is applicable for the vehicle which install LPG / NGV / CNG.

MEET REQUIREMENT

SAE 10W-30

- API CI-4/CH-4/CF-4/CF; SL, Volvo VDS-2
- Cummins 20071/6/8, Mack EO-M, EO-M Plus

SAE 15-40

- API CI-4/CH-4/SL , ACEA E7-08, E7-04, A3/B4-08, MB 228.3, MAN 3275, Volvo VDS-2, Renault RD-2, Mack EO-M Plus, Cummins CES 20077, Caterpillar ECF-1a, Deutz DCQ-II, MTU 2.0

TYPICAL INSPECTION

PROPERTIES	10W-30	15W-40
Appearance	Bright & Clear	Bright & Clear
Color	Report	Report
Density @ 15 °C, g/cm ³	Report	Report
Flash Point (COC), °C	215 Min	215 Min
Foam Test (Seq II), mL/mL	50/0 Max	50/0 Max
Pour Point, °C	-21 Max	-21 Max
Kinematic Viscosity @ 100 °C, cSt.	10.5-11.5	14.0-15.0
Viscosity Index	135 Min	135 Min
Cold Cranking Simulator, cP	6600 Max, @ -25 °C	6600 Max, @ -20 °C
TBN, mg KOH/g	9.2 Min	9.2 Min

Packages: 1 litre, 6 litres and 200 litres

D3 Commonrail



D3 COMMONRAIL is the superior-quality lubricating oil formulated to exceed API CH-4/SJ the highest diesel engine lubricant standard. Formulated from selected quality basestock and outstanding additive. The benefits of D3 COMMONRAIL include the following properties.

- Sustain engine durability even under severe application
- Highly control of wear and deposits that minimized maintenance cost
- High temperature stability and soot handling properties
- Optimum protection for oxidative and insoluble thickening
- Oil change is 10,000 KM instead of 7,000 KM in normal operating condition

APPLICATION

D3 COMMONRAIL is recommended for all heavy-duty diesel engines, pickup, off-road cars and diesel engine equipped with commonrail / turbo-charged and super-charged.

MEET REQUIREMENT

- API CH-4/SJ
- ACEA E2-96 Issue 2, A3-98, B3-98
- MB 228.1, 229.1
- Volvo VDS
- MTU Type 1
- Mack EO-M
- Cummins CES 20,071
- LRG-1
- DDC Series 2000/4000 Type 1
- MAN 271

TYPICAL INSPECTATION

• PROPERTIES	SAE 15W-40	SAE 20W-50
Appearance	Bright & Clear	Bright & Clear
Color	Report	Report
Density @ 15 °C, g/cm ³	Report	Report
Flash Point (COC), °C	215 Min	215 Min
Foam Test (Seq II), mL/mL	50/0 Max	50/0 Max
Pour Point, °C	-15 Max	-15 Max
Kinematic Viscosity @ 100 °C, cSt.	14.5-15.5	18.5-19.5
Viscosity Index	135 Min	125 Min
Cold Cranking Simulator, cP	6600 Max, @ -20 °C	9100 Max, @ -15 °C
TBN, mg KOH/g	8.5 Min	8.5 Min

Packages:

15W-40: 1 Litre, 6 Litres, 200 Litres

20W-50: 200 Litres

D3 Max



D3 MAX is the superior lubricating oil for heavy-duty diesel engines equipped with 'turbo-charged or super-charged. It is a multigrade oil which formulated to exceed API CF-4/SJ standard and give superior performance for all heavy-duty engines. The benefits of D3 MAX include extended engine life, outstanding results in high temperature operations, protected engine wear and extended oil drain interval.

APPLICATION

- D3 MAX is designed for all heavy-duty diesel engines, truck, bus, tractor, pick up, fishing boat especially high speed diesel engine.
- It can also be used in general gasoline engines and gasoline engines with catalytic converter.

MEET REQUIREMENT

- API CF-4/SJ

TYPICAL INSPECTION

PROPERTIES	SAE 20W-50
Appearance	Bright & Clear
Color	Report
Density @ 15 °C, g/cm ³	Report
Flash Point (COC), °C	215 Min
Foam Test (Seq II), mL/mL	50/0 Max
Pour Point, °C	-15 Max
Kinematic Viscosity @ 100 °C, cSt.	18.5-19.5
Viscosity Index	120 Min
Cold Cranking Simulator, cP	9100 Max, @ -15 °C
TBN, mg KOH/g	8.0 Min

Package : 6 Litres

Diesel TD1



DIESEL TD-I is a high quality lubricating oil for heavy-duty diesel engines equipped with turbo-charged or super-charged. It is a multigrade oil which formulated to exceed API CF-4/SJ standard and give high performance for all heavy-duty engines. The benefits of DIESEL TD-I include extended engine life, outstanding results in high temperature operations, protected engine wear and extended oil drain interval.

APPLICATION

- DIESEL TD-I is designed for all heavy-duty diesel engines, truck, bus, tractor, pick up, fishing boat especially high speed diesel engine. It can also be used with gasoline engines at the API SJ performance.

MEET REQUIREMENT

- API CF-4/SJ

TYPICAL INSPECTATION

PROPERTIES	SAE 10W30	SAE 15W-40	SAE 20W-50
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Color	Report	Report	Report
Density @ 15 °C, g/cm ³	Report	Report	Report
Flash Point (COC), °C	215 Min	215 Min	215 Min
Foam Test (Seq II), mL/mL	50/0 Max	50/0 Max	50/0 Max
Pour Point, °C	-21 Max	-15 Max	-15 Max
Kinematic Viscosity @ 100 °C, cSt.	10.5-11.5	14.5-15.5	18.5-19.5
Viscosity Index	135 Min	120 Min	120 Min
Cold Cranking Simulator, cP	6600 Max, @ -15 °C	6600 Max, @ -20 °C	9100 Max, @ -15 °C
TBN, mg KOH/g	8.0 Min	8.0 Min	8.0 Min

Packages: 18 litres and 200 litres

D3 Extra Plus



D3 EXTRA PLUS is the finest-quality diesel engine oil for heavy-duty automotive and earth-moving equipment. It is single-grade engine oil formulated to exceed API CF/SF standard. The benefits of D3 EXTRA PLUS include the following properties.

- High detergency and dispersancy help keeping the engine cleanliness
- Highly control of wear and deposits that minimized maintenance cost
- Superior oxidation stability
- Strong resistance to high and low temperature sludge formation

APPLICATION

- D3 EXTRA PLUS is applicable for all heavy-duty diesel engines in commercial vehicles including truck, bus, tractor, pickup, van and mobile hydraulic. It can be used with the gasoline engine at the API SF performance.

MEET REQUIREMENT

- API CF/SF

Special characteristics of D3 EXTRA PLUS

PROPERTIES	SAE 30	SAE 40	SAE 50
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Color	Report	Report	Report
Density @ 15 °C, g/cm ³	Report	Report	Report
Flash Point (COC), °C	230 Min	230 Min	230 Min
Foam Test (Seq II), mL/mL	50/0 Max	50/0 Max	50/0 Max
Pour Point, °C	-6 Max	-6 Max	-6 Max
Kinematic Viscosity @ 100 °C, cSt.	10.5-11.5	14.5-15.5	18.5-19.5
Viscosity Index	95 Min	95 Min	95 Min
TBN, mg KOH/g	7.8 Min	7.8 Min	7.8 Min

Packages:

D3 Extra Plus SAE 30: 200 litres

D3 Extra Plus SAE 40: 200 litres, 18 litres, 5 litres and 1 litre

D3 Extra Plus SAE 50: 200 litres

D3-J



D3 J is a high-quality lubricating oil for heavy-duty diesel engines. It is formulated to exceed API CD/SF. The benefits of D3 J include the following properties.

- High detergency and dispersancy help keeping the engine cleanliness
- Increase thermal and oxidation stability
- Higher film-strength available perform wear protection and friction reduction across a wide range of engine operating conditions.
- Good resistance to air entrainment and foaming

APPLICATION

- D3 J is suitable for heavy-duty diesel engines such as truck, tractor, earthmover especially for Japanese OEMs-HINO, NISSAN, ISUZU, MITSUBISHI and KOMATSU.

MEET REQUIREMENT

- API CD/SF

TYPICAL INSPECTION

PROPERTIES	SAE 30	SAE 40	SAE 50
Appearance	Bright & Clear	Bright & Clear	Bright & Clear
Color	Report	Report	Report
Density @ 15 °C, g/cm ³	Report	Report	Report
Flash Point (COC), °C	230 Min	230 Min	230 Min
Foam Test (Seq II), mL/mL	50/0 Max	50/0 Max	50/0 Max
Pour Point, °C	-6 Max	-6 Max	-6 Max
Kinematic Viscosity @ 100 °C, cSt.	10.5-11.5	14.5-15.5	18.5-19.5
Viscosity Index	95 Min	95 Min	95 Min
TBN, mg KOH/g	4.9 Min	4.9 Min	4.9 Min

Packages:

D3 J SAE 30: 200 litres

D3 J SAE 40: 200 litres and 18 litres

D3 J SAE 50: 200 litres

Super HDX



SUPER HDX is a single-grade lubricating oil formulated from high quality base oil and additives. It is formulated to exceed API CC/SD. The benefits of SUPER HDX include the following properties :

- Increased detergency to keep engine cleaner
- Provided protection from high temperature deposits
- Provided protection from bearing corrosion
- Effective control of ring, piston and cylinder wear

APPLICATION

- SUPER HDX is suitable for light pickup, agricultural equipment, water pump, household generator and 4-stroke motorcycles.

MEET REQUIREMENT

- API CC/SD

TYPICAL INSPECTION

PROPERTIES	SAE 40
Appearance	Bright & Clear
Color	Report
Density @ 15 °C, g/cm ³	Report
Flash Point (COC), °C	230 Min
Foam Test (Seq II), mL/mL	50/0 Max
Pour Point, °C	-6 Max
Kinematic Viscosity @ 100 °C, cSt.	14.5-15.5
Viscosity Index	95 Min
TBN, mg KOH/g	3.5 Min

Packages: 1 litre, 5 litres, 18 litres, 200 litres