Renewable Lubricants, Inc.
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Bio-SynXtra™ HD Plus SHP SAE 5W20 Motor Oil (Low Ash)

Biobased, High-Performance Diesel and Gasoline Engine Oil

Bio-SynXtra™ HD Plus SHP SAE 5W20 is a biobased, low ash, high-performance engine oil designed for EPA 2007 compliant diesel engines with after-treatment systems like diesel oxidation catalysts and particulate filters. Engineered with advanced Stabilized™ technology, it delivers exceptional protection for naturally aspirated, turbocharged, and supercharged diesel and gasoline engines. Its high viscosity index and thermal stability make it an ideal solution for demanding conditions in both modern and high-mileage vehicles.

Benefits

- Exceeds performance requirements for API SN/SM/SL/SJ and diesel categories CF, CF-4, CG-4, CH-4, CI-4, CI-4 Plus, CJ-4
- Low ash formula protects sensitive after-treatment systems
- Enhanced wear and corrosion protection for overhead cam and conventional engines
- Outstanding soot and sludge control
- Stable viscosity for high-temperature performance and extended drain intervals
- Low volatility for reduced oil consumption and emissions
- Provides CAT TO-2, Allison C-3/C-4 transmission protection
- Ideal for racing, performance motorsport, and industrial fleets
- High VI (~179) from HOBS base oils for better cold flow and shear stability
- Biodegradable and USDA BioPreferred SM listed

Application / New Filling

Recommended for:

- New and older gasoline/diesel engines, including high-mileage equipment
- Passenger cars, SUVs, light trucks, and heavy-duty on/off-road vehicles
- Small displacement turbo/supercharged engines
- Equipment requiring SAE 5W20, 10W20, or 15W20 oils
- Manual transmissions requiring GL-3 performance or OEM fluid specifications

OEM Specifications and Compatibility:

- API SN, SM, SL, SJ / CF, CF-4, CG-4, CH-4, CI-4, CI-4 Plus, CJ-4
- ACEA E7-04, E9-08 Issue 2
- Caterpillar ECF-1-A, ECF-2, ECF-3
- VOLVO VDS-4, Mack EO-O Premium Plus
- CUMMINS CES 20081, Detroit Diesel DDC 93K218

- Renault Truck RLD-3
- Meets SAE J300 and passed API/ILSAC base oil interchange tests (unlicensed formula)

Specifications and Approvals

- Stabilized™ biobased technology
  - U.S. Patents: 5,990,055; 6,383,992; 6,534,454
  - Canada: 2,498,812; 2,538,768; 2,609,756
  - Mexico: 275,334; 308,832
  - Proven in motorsports (3000 HP+ dragster, endurance road racing)
  - Used by organizations including the U.S. Army, NASA, Coast Guard, NOAA, and USDA facilities

TYPICAL SPECIFICATIONS		
Viscosity @ 100°C	ASTM D-445	**8.9**
Viscosity @ 40°C	ASTM D-445	**38**
Viscosity Index	ASTM D-2270	**179**
Flash Point (COC)	ASTM D-92	**220°C**
Pour Point	ASTM D-97	**-45**
CCS @ -30°C, cp	ASTM-D-5293	**<6000**
MRV-TP1 @ -35ºC, cP Yield Stress, Pa	ASTM-D-4684	**22000** **None**
HTHS @ 150º C, Apparent Viscosity, cP	ASTM-D-4683	**>3.1**
NOACK Volatility % max 1h at 250°C	NOACK	**11**
Total Base Number	ASTM D-2896	**10.3**
Sulfated Ash, % max	ASTM D-874	**1.0**
Phosphorus, % max	ASTM D-4951	**0.12**
Sulfur, % max	ASTM D-4951	**0.4**