

## Alpha Syn

Severe Duty Gasoline Engine Oil

No. 409

SAE 5w/20

### DESCRIPTION:

**Alpha Syn 5w/20** is a premium quality SN Plus engine oil designed to be more fuel efficient and less environmentally damaging. It is designed for all-weather operation for all types of modern gasoline-powered vehicles, including high-performance turbocharged, supercharged, multi-valve fuel injected engines found in passenger cars, SUVs, light vans, light trucks and other mobile and stationary equipment.

**Alpha Syn 5w/20** is a blend of the highest quality base oils and selected additives. It is compounded with Frontier's exclusive ETX extender additive package and has a much higher viscosity index (VI) than conventional oils. This exclusive formulation provides excellent protection against deposits resulting from thermal breakdown during long term high temperature operation. It also provides excellent protection against sludge deposits resulting from severe service, short trips and stop-and-go driving.

### FEATURES:

Prolonged exposure to severe service at high temperatures can cause some oils to oxidize and thicken hampering flow capability and leading to poor performance, elevated engine wear and higher fuel consumption. **Alpha Syn 5w/20** has a combination of select additives and premium base stocks that insure the highest level of oxidation stability in the industry.

### PERFORMANCE CHARACTERISTICS:

**Alpha Syn 5w/20** anti-wear additives minimize wear and scuffing of metal surfaces under boundary lubrication conditions. The detergent-dispersant additives protect against sludge formation and varnish deposits. The anti-oxidant additive provides excellent resistance to oxidation during the higher operating temperatures common in the modern high revving, high performance, and low emission engines being manufactured today. Rust and corrosion additives protect engine parts during engine operation and shut down.

**Alpha Syn 5w/20** contains a unique acid neutralizing additive package that protects against the formation of acidic compounds. These selected alkaline additives give a much longer lasting TBN than regular engine oils. This higher, long lasting TBN provides protection against acid buildup and allows longer oil change intervals than conventional engine oils.

### SUMMARY:

**Alpha Syn 5w/20** Engine Oil provides the following advantages:

- Meets or exceeds the performance requirements of current and proposed engine oil specifications
- Protects low-emission engines from wear and deposits
- Resists soot-related viscosity increase
- Extends engine life while meeting emissions requirements
- Improves engine durability, keeping equipment in as new condition

- Allows extended oil drain intervals
- Resists thermal breakdown
- Has excellent low temperature performance
- Is more environmentally friendly
- Protects against Low-Speed Pre-Ignition (LSPI)

**PERFORMANCE CAPABILITIES:**

**API Service Categories:**

- SN Plus, SN, SM, SL and all previous S categories
- RSOURCE CONSERVING
- ILSAC GF-5

\*and all previous API and ILSAC gasoline categories

**MANUFACTURER’S PERFORMANCE REQUIREMENTS:**

Use in gasoline engines and gasoline engines which have been converted to operate on compressed natural gas (CNG), liquefied natural gas (LNG) and liquefied petroleum gas (LPG - which includes propane and butane).

- FORD - WSS-M2C-945-B1 (SAE 5w/20)
- GENERAL MOTORS – GM 6094M, GM 4718M
- NISSAN - KA 24E
- PEUGEOT - TU 3M SCUFF TEST
- FCA US LLC (CHRYSLER) - MS 6395
- Dexos 1™ second generation

**SN Plus** - Gasoline Engine Service Category SN Plus was adopted to describe engine oils for use in 2010. It is for use in service typical of gasoline engines in present and earlier passenger cars, sport utility vehicles, vans and light trucks operating under vehicle manufacturer’s recommended maintenance procedures. Oils meeting API SM may be used where API Service Category SJ and earlier categories are recommended.

**TYPICAL PROPERTIES:**

SAE GRADE	5W/20
Viscosity @ 100° C,cSt	8.66
Viscosity @ 40° C,cSt	49.26
Viscosity Index	155
Flash Point, COC °F	423
Pour Point, °C	-33
Color, ASTM D1500	2.5
Total Base Number, ASTM D2896	12.3

*Typical test data are average value only. Minor variations which do not affect product performance are to be expected in normal manufacturing*

**PERFORMANCE PRODUCTS GUARANTEED**