



## Product Data Sheet

### **NGLA 40**

### **High Performance Low Ash Natural Gas Engine Oil**

#### **DESCRIPTION**

Nemco's NGLA 40 is a Low Ash, SAE 40 Natural Gas Engine Oil (NGEO) that is designed for use in modern 4-stroke stationary engines fueled by natural gas. Recommended for use in gas compression, well gathering, power generation, Co-Gen, Landfill and Bio Gas applications

NGLA 40 was reformulated in October 2016 using the highest quality API Group II base oils and a state-of-the-art additive package with proven performance in naturally aspirated, turbocharged, and lean burn engines. The new Nemco NGLA 40 has successfully completed extensive field trials in Caterpillar and GE Jenbacher engines in severe co-generation service.

#### **Advantages of new NGLA 40**

- Low Sulphated Ash (0.50 wt %)
- Enhanced varnish and deposit protection at very high temperatures
- Lower deposits in combustion chamber resulting in reduced oil consumption
- Lower levels (< 335 ppm) of Zinc and Phosphorus to protect catalytic converters
- Improved copper corrosion protection
- Minimized valve seat recession
- Increased overhaul intervals
- API CF level performance

#### **Meets and/or exceeds requirements for**

- Caterpillar (including CAT 3600 and 3500 series engines)
- Cummins
- Dresser Rand
- Guascor
- Jenbacher (official approval in GE Jenbacher TA 1000-1109, Type 2, 3 and 4 engines)
- MAN Diesel & Turbo 4T
- MTU
- MWM
- Niigata
- Wartsila 4T
- Waukesha



# Product Data Sheet

## Typical Characteristics – NGLA 40

Test	Performance 40
Sulphated ash wt. %	0.50
Viscosity cSt at 40°C cSt at 100°C	139 15.3
Viscosity Index	113
Pour point °C (°F)	-23 (-10)
Flash point °C (°F)	215 (419)
Total Base Number (TBN)	5.6
Phosphorus, ppm	< 335
Zinc, ppm	< 335

*Physical characteristics shown in the table are typical and may vary slightly.*

## **NGLA 40 - High Performance Low Ash Natural Gas Engine Oil**

### **Caterpillar G3520C Field Trial**

#### **FIELD TRIAL DESCRIPTION**

- **Location** Canada
- **Timing of trial** October, 2013 to November, 2014
- **Engine** CAT G3520C
- **Service** Co-generation
- **Fuel** Bio-Gas Fuel, with H<sub>2</sub>S content in the fuel generally below 200 ppm, with some excursions
- **Test duration** 7,246 hours
- **Oil changes** 800 hour drain intervals targeted due to poor fuel quality

#### **FIELD TRIAL RESULTS**

The engine oil performed well given the severe operating conditions of the engine and the variability in the fuel. The oil exhibited superior deposit control on the piston crown lands with reduced scuffing and bore polish. The oil also delivered superior deposit control behind piston rings (inner face deposits) providing enhanced engine durability.

The oil exhibited good oxidation and nitration control throughout the field trial and had good deposit control for all components that came in contact with the oil.

As a result of this field trial, the additive chemistry used in Nemco's NGLA 40 and formulated with API Group II Base Oil (Motiva Star 12) gained Caterpillar approval for co-gen service.



**CAT 3520C Piston Head**



**CAT 3520C Piston Rings**

## **NGLA 40 - High Performance Low Ash Natural Gas Engine Oil**

### **GE Jenbacher Type 4 Field Trial**

#### **FIELD TRIAL DESCRIPTION**

- **Location** Portugal
- **Timing of trial** April, 2012 to July, 2014
- **Engine** Jenbacher Type 4 Engine, V20 configuration
- **Service** Co-generation
- **Fuel** Natural gas (pipeline quality)
- **Test duration** 8,915 hours
- **Oil changes** 2,000 hour oil drain intervals targeted, with minimum 6,000 hour test duration

#### **FIELD TRIAL RESULTS**

The field trial ran in accordance with GE Technical Instruction TA1000-0099A,B&C. Three oil drain intervals of 2,000 hours were targeted with a minimum test duration of 6,000 hours. Overall the test ran for 8,915 hours.

At the end of the test the engine was inspected in accordance with GE Jenbacher technical instructions. Cylinders 4 and 15 were chosen for inspection following an endoscopic inspection of the combustion chambers.

As a result of the field trial, the additive chemistry used in Nemco's NGLA 40 and formulated with API Group II Base oils (Chevron RLOP 600N) was approved for use in GE Jenbacher TA 1000-1109 (Type 2, 3 & 4) engines.



**Jenbacher Type 4 Piston Head**



**Jenbacher Type 4 Piston Rings**