



Taro® 40 XL

Marine & Stationary Diesel Engine Oil

Product Data Sheet

Customer benefits

Wear Protection

High alkalinity levels control cylinder liner wear effectively and protect bearings from corrosion. High-performance antiwear additives provide excellent protection against adhesive wear for cams, camshaft and bearings. Taro 40 XL also provides a high degree of water tolerance and antifoam protection.

Detergent-Dispersant Properties

Keeps crankcase and oil control rings clean. Prevents deposit formation throughout the engine. Reduces lube oil filter blockage. Effectively handles insolubles.

Oxidation Stability

Oxidation inhibitors protect the oil against thermal stresses, protect engine parts from corrosion and reduce undercrown deposits while promoting extended lubricant life.

Rust Prevention

Prevents corrosion of engine parts when engine is not in operation.

Balanced Additive Combination

Provides minimum maintenance and downtime, long engine life and economical operation.

Applications

- Medium-speed trunk piston engines including latest designs in stationary power generation, especially in high load factor operations.
- Medium-speed trunk piston engines in marine service.

Product features:

- **Taro® 40 XL** is a high alkaline reserve (40 Base Number) trunk piston engine oil (TPEO) designed for use in high specific output medium-speed trunk piston engines burning residual fuels (up to 4.5% sulfur).
- **Taro® 40 XL** is particularly suited to high load factor operations in marine or stationary service and where heavy residual fuels with high asphaltene content (vis broken residue) are used.

Product specifications

TARO® 40 XL KEY PROPERTIES	
SAE Grade	40
Product Code	560062
Base No.,	
D2896, mg KOH/	40
D4739, mg KOH/g	39
FZG Fail Load Stage	12
Sulfated Ash, m %	4.8
Viscosity,	
mm ² /s @ 40°C	139
mm ² /s @ 100°C	14.0
Viscosity Index	97
Zinc, m %	0.04

0909

Performance standards

- Approved by major manufacturers for use in their medium-speed engines.

ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide.

Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal.

To obtain a MSDS for this product, visit:
www.caltexoils.com.



Taro[®] 40 XL

Service considerations

BASE NUMBER (BN) SELECTION

Manufacturer's lubricant recommendations must be matched to the properties of the fuel and to the severity of the application. Use of an oil with a BN lower than required can result in rapid corrosive wear. Excessively high BN lubricants, relative to fuel sulfur content, can result in ash deposit accumulation on exhaust valves and result in possible valve distress.

FUEL QUALITY

Heavy residual fuels often have poorer combustion characteristics due to their asphaltene content and can result in greater loading of soot and unburned fuel in the lube oil. A higher detergency oil has a greater ability to contain these materials and minimize the formation of "black sludge" as well as piston deposits.

PURIFICATION SYSTEMS

Active purification systems continuously remove combustion contaminants from the oil, by use of centrifugal type separators and automatic back flushing type filtration systems. As a consequence, TPEOs are formulated to hold contaminants in suspension while in the engine and reserve tank, but release them in the purification system. At the same time, they must resist the loss of detergent/ dispersant additives with the contaminants whilst undergoing purification. Because of this, they are formulated differently from automotive and railroad diesel engine oils that are designed for systems without active purification. Consequently, one type should never be substituted for the other.

As a result of the need for TPEOs to release their contaminants in purification systems, the additive system must be extremely well balanced. This "detergency balance" can be easily disturbed if large amounts of top-up oil are added to a system oil containing a higher than normal loading of contaminants, such as can occur with faulty purifier operation. For this reason, it is recommended that oil levels be maintained daily and not fall below 95% of nominal capacity.

In addition, top-ups with an oil of different detergent/dispersant characteristics will very likely cause a disturbance in dispersancy balance and will, therefore, require careful management of oil changeover procedures.

Water can be centrifuged out with essentially no loss of additive. However, water washing of the oil is not recommended.

IN-SERVICE OIL ANALYSIS

Wherever possible, oil analysis should be carried out on a regular basis to determine when change-out of the oil should occur, in accordance with the manufacturer's guidelines.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:
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- Asia Pacific