



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). 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.

Taro 40 XL is an SAE 40 grade oil.

## 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.

## 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.

## PERFORMANCE STANDARDS

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



### TYPICAL CHARACTERISTICS

Product Code	2735
SAE Grade	40
Base Number, D2896, mg KOH/g D4739, mg KOH/g	40 39
Density at 15°C, kg/L	0.911
Flash Point, COC °C	> 230
FZG Fail Load Stage	12
Pour Point, °C	-18
Sulfated Ash, m%	4.8
Viscosity, cSt at 40°C cSt at 100°C	139 14.0
Viscosity Index	97
Zinc, m%	0.04

### PACK SIZES

205L



## 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

## ENVIRONMENT, HEALTH AND SAFETY

Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal. Used packaging material should not be incinerated or exposed to flame. After use, protect your environment. Do not pollute drains, soil or water with used product.

## OTHER INFORMATION

For further information on Caltex products and services call the Lubelink Advisory Service on 1300 364 169 between 8.00am and 6.00pm (EST) Monday to Friday.

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