



CITGO PACEMAKER® 1640AE

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DESCRIPTION: CITGO Pacemaker 1640AE is an SAE 40 low ash stationary natural gas engine oil and anti-emulsion compressor lubricant. It is specially formulated to help prevent emulsion formation in high moisture gas conditions. High moisture gas is prevalent in shale and coal bed methane (CBM) production areas where water is introduced to the gas stream. This and other operating conditions can trigger oil and water emulsion in compressor systems and cause operating issues. Conventional low ash engine oils form emulsion under these conditions, requiring use of a separate compressor lubricant. CITGO Pacemaker 1640AE helps avoid use of separate lubricants by mitigating compressor emulsion without sacrificing engine protection. CITGO Pacemaker 1640AE complies with engine manufacturers' warranties and meets non-selective catalytic converter requirements.

- QUALITIES:** CITGO Pacemaker 1640AE offers:
- Excellent engine protection while helping prevent compressor emulsion formation in high moisture gas conditions
 - Special detergent-dispersant technology for clean engine operation
 - Deposit control and wear protection for valves, pistons, rings, and liners
 - TBN retention to neutralize combustion acids
 - Effective oxidation and nitration control
 - Catalyst compatible

APPLICATIONS: CITGO Pacemaker 1640AE is a specially formulated SAE 40 lubricant that provides superior engine protection while avoiding emulsion formation in high moisture gas environments. CITGO Pacemaker 1640AE is recommended for a wide range of high and medium speed naturally aspirated and turbocharged 4-cycle engines including those manufactured by Caterpillar, Waukesha, Superior, Cooper-Bessemer, Cummins and Dresser Rand.

TYPICAL PROPERTIES:

CITGO PACEMAKER® 1640AE

SAE Grade	40
Material Code	632052001
Gravity, ASTM D 4052, °API	29.9
Pounds Per Gallon	7.3
Flash Point, COC, ASTM D 92, °F (°C)	495 (257)
Viscosity, ASTM D 445, cSt at 40°C	120
cSt at 100°C	13.2
Viscosity Index, ASTM D 2270	105
Pour Point, ASTM D 97, °F (°C)	-11 (-24)
Color, ASTM D 1500	L6.5
Sulfated Ash, ASTM D 874, m%	0.5
Total Base No., ASTM D 2896, mg KOH/g	4.1
Total Acid No., ASTM D 664, mg KOH/g	1.0
Phosphorous, ppm	260

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