



Product Bulletin

PENN-GRADE 1[®] V² 4-STROKE **HIGH-PERFORMANCE SAE 10W-40** **MOTORCYCLE OIL**

DESCRIPTION

Blended with Pennsylvania Grade base oils, select synthetic components and superior additive chemistry, **BRAD PENN[®] PENN-GRADE 1[®] V² 4-Stroke High Performance SAE 10W-40 Motorcycle Oil** is specifically formulated to offer the ultimate in quality, performance, and protection for motorcycles. Unlike most other multi-viscosity motorcycle oils, the very unique viscosity modifier used in our **Brad Penn[®]** oil is not based upon conventional polymers which can shear significantly with use and cause loss of oil viscosity. This viscosity modifier imparts exceptional High Temperature High Shear viscosity protection to our **BRAD PENN[®] PENN-GRADE 1[®] V² 4-Stroke High Performance SAE 10W-40 Motorcycle Oil** that is so critical for protection of high speed, high revving motorcycle engines. Further, in applications where the same oil is used for lubrication of both the engine and transmission, the excellent shear stability of this motorcycle oil offers a distinctive operational advantage over other less shear-stable oils. Increased levels of 'zinc' (zinc dialkyldithiophosphate) in **BRAD PENN[®] PENN-GRADE 1[®] V² 4-Stroke High Performance SAE 10W-40 Motorcycle Oil** provide exceptional anti-wear/anti-scuffing protection. Detergents, dispersants and anti-oxidants offer protection from thermal and/or oxidative oil breakdown that can lead to varnish and deposit formation. Anti-foam agents reduce oil foaming and air entrainment under high-speed and/or high-RPM operation.

PERFORMANCE ADVANTAGES

- Excellent High Temperature protection for air and water cooled 4-cycle engines. Resists thermal and/or oxidative breakdown.
- Superior high temperature/high shear viscosity.
- Meets JASO MA-2 performance requirements for use in wet clutches. JASO MA-2 offers improved frictional characteristics exceeding those of JASO MA Oils meeting JASO MA-2 are suitable for use in JASO MA applications.

APPLICATION

Suitable for use in Honda[®], Kawasaki[®], Suzuki[®], Yamaha[®] and other 4-stroke motorcycles where an API SJ, SH or SG quality oil is specified. Consult your owner's manual for proper oil viscosity and quality selection. May also be used in ATV's, golf carts, 4-wheelers and other 4-stroke engine applications.



AMERICAN REFINING GROUP, INC.

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BRAD PENN[®]
PENN-GRADE 1[®] V² 4-Stroke High Performance SAE 10W-40
Motorcycle Oil
Typical Properties

Properties	Test Method	10W-40
API Service	SAE J183	SJ, SH, SG
API Gravity, 60°F	ASTM D-1298	32.1
Density, lbs/gal (g/L)	Calculated	7.202 (863)
Viscosity, cSt @ 40°C	ASTM D-445	85.5
Viscosity, cSt @ 100°C	ASTM D-445	13.5
Viscosity, SUS @ 100°F	ASTM D-2161	436.1
Viscosity, SUS @ 210°F	ASTM D-2161	73.4
Viscosity Index	ASTM D-2270	162
Color	ASTM D-1500	Green
Pour Point, °C (°F)	ASTM D-97	-39 (-35)
Flash Point, °F (°C)	ASTM D-92	425 (218)
HTHS, mPa	ASTM D-5481	4.39
CCS, cP	ASTM D-5293	6,600 @ (-25°C)
MRV, cP	ASTM D-4684	28,000 @ (-30°C)
TBN, Typical	ASTM D-2896	7.5
Sulfated Ash, Typical	ASTM D-874	.88
Product Code		7156