

Motorcycle Oil

AMSOIL 20W-50 100% SYNTHETIC V-TWIN MOTORCYCLE OIL

Product Code: MCVQT-EA

Protect your V-twin engine from heat, wear, and rust with superior synthetic oil for smoother rides and longer-lasting performance.



Product Description

AMSOIL 20W-50 100% Synthetic V-Twin Motorcycle Oil is a purpose-built synthetic lubricant engineered to handle the unique demands of air-cooled V-twin engines, transmissions, and primary chaincases in a single formulation. It delivers measurably better viscosity stability, heat resistance, and wear protection than the factory oil most Harley-Davidson owners default to.

Air-cooled V-twin engines operate under conditions that punish conventional and even many synthetic oils. Extreme cylinder temperatures, the mechanical shearing forces of integrated transmissions and primary chains, and long stretches of idle time in rally or parade traffic all conspire to break oil down faster than in a typical automotive engine. Add in seasonal storage and humidity exposure, and you have a recipe for accelerated wear, deposit buildup, and rust if the oil isn't specifically formulated to handle it.

RESISTS VISCOSITY BREAKDOWN 6X BETTER THAN HARLEY-DAVIDSON SYN3

Oil that thins out under mechanical stress loses its ability to protect gears, compensators, and transmission components. In CEC L45-KRL shear stability testing (ASTM D445), AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil resisted viscosity breakdown 6X better than Harley-Davidson Screamin' Eagle SYN3. That shear stability means the oil maintains its protective film thickness in the transmission and primary chaincase throughout the entire drain interval, not just for the first few hundred miles. For Harley-Davidson Twin Cam, Milwaukee-Eight, and Evolution engine owners running one oil in all three sumps, this is a significant upgrade over the factory recommendation.

WITHSTANDS EXTREME HEAT AND FIGHTS DEPOSITS

Air-cooled V-twins like those found in Harley-Davidson Road Glide, Street Glide, Softail, and Sportster models routinely push oil temperatures well beyond what liquid-cooled engines experience. Stop-and-go rally traffic and slow-speed parade riding make it worse. AMSOIL formulated this oil with naturally heat-resistant synthetic base oils and maximum levels of oxidation inhibitors to resist thermal breakdown in these conditions. During 1,000 miles of extreme-heat dyno testing where cylinder temperatures reached 421 degF (216 degC), the oil prevented piston-ring sticking and protected against piston scuffing. That translates directly to maintained engine compression and power output over time.

PROTECTS TRANSMISSIONS AND PRIMARIES WITHOUT EXTREME-PRESSURE ADDITIVES

Many riders use a dedicated gear lube in their transmission and primary to get better protection, but extreme-pressure additives can cause wet-clutch slippage and glazing. AMSOIL 20W-50 V-Twin Oil performs like a gear lube in high-load gear contact areas without relying on those problematic EP additives. The Four-Ball Wear Test (ASTM D4172, 40 kgf, 150 degC, 1800 rpm, 1 hr) produced a wear scar of just 0.37 mm, and the FZG Load Stage test (ASTM D5182) resulted in a pass at Load Stage 12 with 0 mm of wear. This means one oil handles all three sumps on your Harley-Davidson, Buell, or Indian V-twin without compromise.

SUPERIOR RUST PROTECTION FOR STORAGE AND SHORT TRIPS

Motorcycles that sit through winter storage or only get ridden on short weekend trips are especially vulnerable to internal rust. Roller-bearing failure, cylinder wall corrosion, and compression loss can all result from moisture accumulation inside the engine. Unlike many motorcycle oils, AMSOIL 20W-50 V-Twin Oil contains dedicated anti-rust agents and passes the ASTM D1748 humidity cabinet rust test. This is particularly relevant for Harley-Davidson owners in humid climates or those who store their bikes for months at a time.

WET-CLUTCH COMPATIBLE WITH SMOOTH ENGAGEMENT

The formulation contains no friction modifiers that could cause clutch slippage. It promotes smooth shifting and positive clutch engagement, while its high Total Base Number of 11.6 helps resist the acids that degrade clutch material over time. It meets JASO MA/MA2 and ISO-L-EMA2 standards for wet-clutch compatibility.

Specifications and Compatibility

AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil meets JASO MA/MA2, API SL, SH, SG, CG-4, CF, and ISO-L-EMA2 specifications. It is suitable for any motorcycle requiring a 20W-50 motorcycle oil meeting these specs, including Harley-Davidson and Buell models. It is also suitable where an API CH-4 oil is required. Do not use where an API GL-4 or GL-5 gear oil is specified. Compatible with other synthetic and conventional motorcycle oils, though mixing will reduce performance benefits and service life. Aftermarket oil additives are not recommended.

Service Life

Use for up to twice the motorcycle manufacturer change interval (miles/hours) or one year, whichever comes first, in engines, transmissions, and primary chaincases. For Big Twin Harley-Davidson transmissions only, follow the Harley-Davidson recommended drain interval for synthetic oil of up to 20,000 miles (32,187 km) or one year, whichever comes first. If not using an AMSOIL Motorcycle Oil Filter, change the filter at standard intervals. For off-road use, change at motorcycle-manufacturer-recommended intervals. Racing or modified engines are excluded from extended-drain-interval recommendations.

Technical Specifications

Property	Value	Test Method
Kinematic Viscosity @ 100 degC, cSt	18.5	ASTM D445
Kinematic Viscosity @ 40 degC, cSt	132.8	ASTM D445
Viscosity Index	156	ASTM D2270
Pour Point, degC (degF)	-41 (-42)	ASTM D97
Flash Point, degC (degF)	228 (442)	ASTM D92
High-Temperature/High-Shear Viscosity @ 150 degC, 1.0 x 106 s-1, cP	5.6	ASTM D5481
Four-Ball Wear Test (40 kgf, 150 degC, 1800 rpm, 1 hr), Scar, mm	0.37	ASTM D4172
FZG Load Stage Pass (Wear in mm)	12+ (0 mm)	ASTM D5182
Noack Volatility, % weight loss (g/100g)	4.2	ASTM D5800
Foam (Sequence I, II & III)	0/0, 20/0, 0/0	ASTM D892
Rust Test - Humidity Cabinet	No Rust, Pass	ASTM D1748
Total Base Number	11.6	--

Frequently Asked Questions

Q1: What motorcycles and engines is AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil designed for?

AMSOIL 20W-50 100% Synthetic V-Twin Motorcycle Oil (MCVQT-EA) is engineered for maximum performance in V-twin engines, motorcycle transmissions, and primary chaincases. It is wet-clutch compatible and delivers the convenience of one lubricant for all three sumps -- engine, transmission, and primary -- making it ideal for Harley-Davidson V-twin motorcycles and similar air-cooled V-twin applications.

Q2: How does AMSOIL 20W-50 V-Twin oil protect against extreme heat in air-cooled motorcycle engines?

AMSOIL 20W-50 V-Twin Motorcycle Oil is formulated with naturally heat-resistant synthetic base oils that resist oxidation in extreme summer heat and during strenuous stop-and-go rally or parade traffic. In extreme-heat dyno testing, it prevented piston-ring sticking and protected against piston scuffing after 1,000 miles (1,609 km) where cylinder temperatures reached 421 degF (216 degC). A unique additive system keeps engines clean and running efficiently even in the toughest riding conditions.

Q3: What viscosity breakdown test results does AMSOIL 20W-50 V-Twin Motorcycle Oil have?

AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil resists viscosity breakdown 6X better than Harley-Davidson Screamin' Eagle SYN3, based on testing conducted in the CEC L45-KRL, ASTM D445 test using products purchased on 1/26/24. This shear-stable formulation resists thinning from mechanical activity, providing improved protection against compensator and transmission gear wear. It is also fortified with maximum levels of oxidation inhibitors to fight deposits for maximum engine compression and power.

Q4: Is AMSOIL 20W-50 V-Twin oil better than Harley-Davidson Screamin' Eagle SYN3?

Yes, based on independent testing. AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil resists viscosity breakdown 6X better than Harley-Davidson Screamin' Eagle SYN3 in the CEC L45-KRL, ASTM D445 test. This superior shear stability translates to improved protection against compensator and transmission gear wear. It also contains a heavy treatment of anti-wear additives to reduce wear in the most extreme operating conditions, and performs like a gear lube in the transmission and primary without the negative effects of extreme-pressure additives.

Q5: Can I use AMSOIL 20W-50 V-Twin Motorcycle Oil in my engine, transmission, and primary chaincase?

Yes. AMSOIL 20W-50 Synthetic V-Twin Motorcycle Oil delivers the convenience of one lubricant for all three sumps -- engine, transmission, and primary chaincase. Its shear-stable formulation resists thinning from mechanical activity to protect transmissions and primaries from wear, while performing like a gear lube without the negative effects of extreme-pressure additives. This eliminates the need to purchase separate fluids for each compartment.

Q6: Is AMSOIL 20W-50 V-Twin Motorcycle Oil safe for wet clutches?

Yes, AMSOIL 20W-50 100% Synthetic V-Twin Motorcycle Oil is wet-clutch compatible. It is specifically formulated to work across the engine, transmission, and primary chaincase without causing clutch slipping or performance issues. Its advanced synthetic formulation provides gear-lube-level protection for transmissions and primaries without using extreme-pressure additives that could negatively affect wet-clutch operation.

Available Product Codes

Product Code	Package Size	Unit of Measure
MCVQT-EA	Quart Bottle	Each
MCVQT-CA	Quart Bottle	Case of 12
MCV1G-EA	Gallon Jug	Each
MCV1G-CA	Gallon Jug	Case of 4
MCV55-EA	55 Gallon Drum	Each
MCV27-EA	275 Gallon Tote	Each

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