

# 2014 Harley-Davidson CVO Limited



For 2014, Harley-Davidson released a line of motorcycles refined by "Project RUSHMORE," which was created to "fundamentally enhance every aspect of the riding experience."

The eight motorcycles included in the lineup feature improved power and braking performance, enhanced rider ergonomics, and "dramatic styling updates that completely redefine and fundamentally transform the touring motorcyclist's experience."

Along with Project RUSHMORE arrived the first liquid-cooled Harley-Davidson engine – the Twin Cooled High Output Twin Cam. A 103 version is available on the 2014 Ultra Limited and 2014 Tri Glide Ultra, but the only motorcycle to get the 110 version is the 2014 Harley-Davidson CVO Limited.

The CVO Limited's Screamin' Eagle Twin-Cooled Twin Cam 110 features a combination of air and liquid cooling (think 2013 BMW R1200GS and its semi-cooled boxer). The liquid coolant flows through the cylinder heads around the exhaust valves, and is ducted to heat exchangers located on the right and left side of the lower fairings.

Harley says the small 1.1-quart precision cooling system uses an electric pump to circulate coolant, and is thermostatically controlled. Harley says this will keep the motor cool in stop-and-go traffic.

Harley says the Screamin' Eagle Twin-Cooled Twin Cam 110 engine produces 115 ft/lbs of torque at 3750 rpm. The engine, which is hooked to the 6-speed Cruise Drive transmission, features Electronic Sequential Port Fuel Injection (ESPFI) and Electronic Throttle Control (ETC).

Besides the Project RUSHMORE enhancements, such as a touch screen Box infotainment systems with Bluetooth connectivity, the CVO is further upgraded with a 75 watt-per-channel amplifier and Boom! Audio High Performance Boom! Bagger speakers, upgraded GPS navigation, premium pull-out luggage, and back-lit hand control and dash switches.

The 2014 Harley-Davidson CVO Limited is available in three colors combinations all with Dragontail graphics – Stardust Silver and Autumn Sunset, Burgundy Blaze and Typhoon Maroon, and Jupiter Blue and Wicked Sapphire with Dragontail

Following are the features of the 2014 Harley-Davidson CVO Limited.

# Control

- **Screamin' Eagle Twin-Cooled™ Twin Cam 110:** A combination of air-cooled and precision liquid cooling strategies allow the Screamin' Eagle Twin-Cooled Twin Cam 110 engine to maintain peak performance under the most demanding loads and riding conditions. Liquid coolant is routed through the cylinder heads in the area around the exhaust valves and then to ducted heat exchangers located in the left and right fairing lowers. The precision cooling system is thermostatically controlled, and uses an electric pump to circulate coolant. The Twin-Cooled Twin Cam 110 may also improve thermal comfort to the rider and passenger in extreme conditions, such as stop-and-go traffic in high ambient temperatures. Cylinder head temperatures are lower and the reshaped fairing lowers improve venting of air to the rider and passenger.
- **Reflex Linked Brakes with ABS:** Reflex Linked Brakes combine ABS with electronically linked brakes that dynamically optimizes front/rear brake balance. Linked braking is activated when the motorcycle is above 20 to 25 mph. If braking is initiated at slower speeds the front and rear brakes function independently. When linked braking is active, applying the front, rear or both brake controls will apply braking force to both the front and rear brakes in a proportion determined by the Reflex Linked Brakes system to optimize performance. The braking will stay linked as speed drops below the 20-25 mph threshold. Reflex Linked Brakes incorporates ABS to further help the rider maintain control during braking events, especially those that happen in less-than-optimal conditions.
- **Daymaker LED Lighting:** The Daymaker LED headlight and Daymaker LED fog lamps deliver a lighting pattern that is highly focused with outstanding "punch" into the darkness. The light quality closely mimics that of natural daylight to further enhance visibility, and its bright-white color is conspicuous in traffic. The Daymaker headlamp has two D-shaped lenses: one that focuses light into a pool directly in front of the bike for outstanding low-beam illumination, and another separate high-beam projector that delivers a super-bright, focused beam to penetrate deep into the darkness.
- **Improved Front Suspension:** New front suspension components, including larger fork sliders and stiffer triple clamps, provide improved steering response. Fork diameter is increased from 43.1mm to 49mm (14 percent). The steering stem is supported by larger bearings. Suspension damping has been re-tuned for a smoother ride over minor pavement irregularities like tar strips.

# Infotainment

- **Boom! Box 6.5 GT:** This new infotainment system delivers eye-popping, ear-pleasing audio performance and a comprehensive suite of information technologies. The entire Boom! Box unit is mounted within the motorcycle fairing for added security and contemporary design. Five-way joysticks on the left and right motorcycle hand controls connect the rider to most Boom! Box system functions. Its features include:
  - High-resolution 6.5-inch color touch screen with both auto and manual dim functions.
  - Full-color GPS navigation system with more than 35 features including: Digital Terrain Modeling; navigation route options (Scenic, Fastest, Shortest or Twisty); extensive Point of Interest (POI) search including nearest gas stations, restaurants and hotels, emergency destinations and Harley-Davidson dealership locations; voice recognition for navigation input; and import/export route capability through H-D Ride Planner. A "dead reckoning" feature aids navigation in downtown areas with tall buildings and tunnels with accuracy greater than cell phones and aftermarket navigation devices. Exclusive features to the CVO Limited are 3-D Landmarks, 3-D Buildings, three software upgrades over a five-year period, and SiriusXM satellite radio service (three month free trial).
  - Audio output is 75 watts per channel, with distortion limited to 1 percent through the four Boom! Audio High Performance Boom! Bagger speakers for outstanding clarity even at higher volume settings, boosted by a bass port in the Tour-Pak.
  - Equalization is optimized for the motorcycle environment and automatically adjusts the bass and treble levels with the volume for optimal sound quality at all motorcycle speeds.
  - The system is Bluetooth capable for pairing a mobile phone. An Advanced Audio Distribution Profile (A2DP) streaming audio Bluetooth interface transmits high-quality audio. Using a wired headset the rider can make and receive calls without leaving the motorcycle hand controls, and stream music directly from the phone. If the Bluetooth-connected mobile phone is compatible, then receiving and auto replying to Short Messages Services (SMS) can be viewed and listened to through the Boom! Box system.
  - When equipped with a headset, voice recognition is available for controlling mobile phone functions, media, radio tuner, navigation, help and other commands in the following languages: English (US and British), Spanish (Mexican and Castilian), French, German, Italian, and Portuguese (EU) .
  - The new Jukebox compartment on the fairing dash features a USB port for charging and playing electronic devices, including Apple iPod/iPhone and other MP3 sources, an SD card, and mobile phones. Apple iPod and iPhone functions are available through the hand controls. When connected to a smartphone, the rider can access music apps such as Pandora and Spotify. The Jukebox compartment features a cushioned bottom and water-resistant foam seal around the One-Touch door. A custom 16GB jump drive is a CVO Limited exclusive.
  - Large faceplate buttons are designed for easy use while wearing gloves.
  - All infotainment functions are controlled through thumb-operated five-way joysticks located on the left and right hand control areas.
  - Radio functions include AM and FM bands plus WB (weather). All radio functions are available through hand controls.
  - Boom! Box 6.5GT supports CB radio and voice-activated (VOX) intercom functions.
  - A selectable Vehicle Information screen displays ambient air temperature, oil pressure, and Engine Idle Temperature Management Strategy (EITMS).

# Feel

- **Project RUSHMORE Batwing Fairing:** The challenge was daunting: reduce head buffeting while maintaining the iconic visage of the Harley-Davidson Batwing fairing. Though subtly reshaped and restyled, the new Batwing fairing maintains the look of perhaps the most recognizable face in motorcycling.
- Development of the new Batwing fairing required the collaboration of Harley-Davidson engineers and stylists. The effort started with initial development aided by the virtual science of CFD (computational fluid dynamics). The aim was to reduce buffeting while not completely isolating the rider in a pocket of dead air, and also while maintaining the airflow necessary to cool powertrain components. Prototypes that showed the most promise made it to the wind tunnel, where the Project RUSHMORE team logged more than 3,000 test sessions, gathering both objective data and subjective input from a variety of riders who experienced the fairing designs while seated on a motorcycle in the wind tunnel. Finally, the fairing met the real-world test of the road.
- The key design element of the new fairing is its splitstream vent located below the windshield which alters the air pressure behind the fairing and contributes to a significant reduction in buffeting. The vent is not adjustable and is intended to be open in almost any riding condition, but a door controlled by a One-Touch push-button will close the vent to keep rain water out. On the CVO Limited model, the fairing is topped with a lightly smoked, 9.5-inch high windshield. Other alterations to the shape of the fairing include a new contour below the windshield, slightly more coverage in front of the hand controls, and more overhang of the headlamp.
- Improved Fairing Lower: The fairing lowers were reshaped as part of over-all aerodynamic testing and to accommodate the heat exchangers for the Twin-Cooled Twin Cam 110 engine. Airflow to the rider and passenger, and to the powertrain, is improved. A new handle that makes it easier to open and close the adjustable vent.
- Passenger Comfort: Shotgun calls the shots, so a successful tour depends on passenger comfort. Project Rushmore worked to address almost every aspect of the passenger seating area of the CVO Limited. The surface of the passenger pillion is one inch wider and one inch longer, and rear speaker pods are shifted outboard by one inch on each side. The height, width, angle and shape of the backrest are changed to provide optimal comfort and more lumbar support for a wide variety of riders. The shape and angle of the armrests is adjusted to keep passenger arms from sliding forward. The saddlebag guards are moved down and back to minimize contact with the passenger's calves and to create more legroom. Passenger audio controls are to the right and positioned to be easy to reach, while the passenger headset connection is now located on the left speaker pod.

# Style

- **One-Touch Design:** A functional element applied to the Tour-Pak, saddlebags, Jukebox, and fuel tank door permits latching and unlatching with a press or pull of a finger.
- **New Tour-Pak:** Its crisp new shape makes the new Tour-Pak appear more compact, but it actually offers 4 percent more capacity than the previous Tour-Pak design, and still holds two full-face helmets. New LED rear lighting is less intrusive within the rear corners of the Tour-Pak. The single One Touch latch, and a new self-centering catch and retractable tether, makes it possible to open and close the Tour-Pak lid with one hand. The Tour-Pak lock is now integrated into the latch. New premium hinges eliminate exposed rivets. The new Tour-Pak support structure looks cleaner and allows one-inch adjustment of the Tour-Pak forward or back to reposition the passenger backrest.
- **New Saddlebag Luggage:** The new hard saddlebags have a sleeker shape that complements the Tour-Pak, and offer about 1 percent more capacity. New One-Touch latch handles are located between the seat and the saddlebag. A new hinge design makes it possible to open the lid with one hand. The new saddlebag supports are made of cast aluminum and are cleaner looking, lighter in weight, comprise fewer parts, and provide better bag alignment than the steel supports they replace.
- **New Hand Controls:** The shape, feel, position and function of all hand controls have been improved. Hand control buttons have a dished shape and angle that better fits the thumb or finger and provides positive engagement. Switch texture and keystroke was designed to provide better feel and feedback. The cruise control button is moved to the left hand control so the right hand no longer has to maintain the throttle and engage the control. All infotainment functions are controlled through thumb-operated five-way joysticks located on the left and right hand control areas. A new Trip switch trigger on the back of the left hand control cycles the LCD screen on the speedometer through odometer, trip, range to empty, clock and gear displays.
- **New Gauges:** Designed to be easier to read in all conditions, the new speedometer and tachometer feature a 10 percent larger viewing area and 68 percent wider numbers. Warning lights and the speedometer screen are also larger and more visible. The fuel and volt gauges are 28 percent larger. The oil pressure and ambient air temperature displays have been moved to the Boom!™ Box infotainment screen.
- **New Fenders:** The steel fender has a streamlined shape, and the skirt has been cut slightly higher to expose more of the front wheel. The fender is also tilted forward slightly to level it with the ground.

## Other features of the 2014 CVO Limited include:

- Rubber-mounted Screamin' Eagle Twin Cooled Twin Cam 110 engine with Automatic Compression Release; rated at 115 ft. lbs. peak torque at 3750 rpm. The engine is equipped with Electronic Sequential Port Fuel Injection (ESPFI) and Electronic Throttle Control (ETC), and is mated to a 6-speed Cruise Drive transmission.
- A custom paint scheme is offered in three color combinations:
  - Stardust Silver and Autumn Sunset with Dragontail graphics
  - Burgundy Blaze and Typhoon Maroon with Dragontail graphics
  - Jupiter Blue and Wicked Sapphire with Dragontail graphics
- Lightly smoked 9.5-inch high windshield and new base trim.
- LED stop/tail/turn and position lights located on the Tour-Pak.
- Redesigned color-matched inner fairing.
- LED back-lit hand control and dash switches.
- Custom CVO USB mass storage; 16GB.
- Keyless ignition features hands-free operation with a proximity-based security fob; automatic bike lock.
- Perforated leather-covered, dual-control heated seat.
- Chrome billet-style extended reach heel shifter.
- Assist & Slip Clutch Pack provides a slip feature on downshifts to reduce loading of the driveline and improve shift feel. Hydraulic clutch actuation reduces lever effort.
- Slipstream Collection heated hand grips, rider floorboard inserts, shifter pegs, brake pedal pad and passenger footpegs.
- Mirror Chrome Chisel Custom wheels.
- Chrome billet muffler end caps with black spears.
- Air-adjustable full-travel rear suspension.
- Electronic Cruise Control.
- Harley-Davidson Smart Security System.
- Indoor/outdoor motorcycle storage cover; Customer Care Package: tool kit, microfiber detailing cloth, H-D jiffy stand coaster
- Harley-Davidson Museum Gold Package