



Technical sheet – Wade Wilcox Engineering (WWE) Piston Kits

Cylinder

All WWE cylinder sleeves are made from the strongest iron alloy in the industry; with a minimum tensile strength of 96,000 p.s.i. Since deflection (the tendency of the cylinder to flex out-of-round under load) will create power losses (the rings can't seat properly on an egg-shaped cylinder) and premature wear (the piston will be squeezed against the narrow sides of an egg-shaped cylinder) it's good to know that the walls of the WWE sleeves are stronger (deflect less) than the original factory installed aluminum sleeve. Each cylinder is TORQUE HONED which replicates the stresses that the cylinder will be under when installed in the engine. This insures that the sleeve will be cylindrical to within two ten-thousandths (.0002) of an inch WHEN INSTALLED! Finally, each WWE cylinder receives a finish-hone treatment to facilitate the proper seating and sealing of the rings. Because of design improvements, each WWE race kit comes with a custom cylinder head seal. Even with all these improvements, the WWE kits will fit Cannondale engines without requiring modifications to the case.

Piston

The initial design work on the WWE piston had its roots in Indy racing car engines. The “Hybrid-X” design of the piston allows it to be safely used in engines with 'red lines' as high as 17,000 rpm! This custom forging, made from 2618 aluminum alloy, and heat-treated to a T-61 standard, creates a piston that is extremely durable even when used in high-rpm applications. Each piston is carefully machined using the best ring-groove design available to provide enhanced sealing of the rings against the cylinder wall. Race pistons receive additional specialized machining in the ring-groove area as well as milling to remove weight in non-critical areas. All WWE piston/ring/wrist pin assemblies are matched in weight to original factory specifications - eliminating the need for re-balancing of the crank. The wristpin bosses on the piston have been carefully sized to create a pin-boss span (the gap between the pin boss and the connecting rod) of only 2.5mm on each side.

Wristpin

All WWE wrist pins are manufactured from aircraft die steel. Race kits include a taper-walled designed pin. EVERY WWE wristpin has been individually Magna-fluxed to insure a consistent high-quality standard.

Rings

WWE piston kits employ a patented gapless-ring design which provides the best seal available in the industry. This gapless design, working together with the superior qualities of the sleeve construction and materials, will raise compression ratios from the 11.8 original rating up to 12.25 without any other modifications.