

LABORATORY TEST RESULTS

SUMMARY:

THE STEPPER BIKE AND A CONVENTIONAL BIKE WERE TESTED BY ASSOCIATED TESTING LABORATORIES UNDER IDENTICAL CONDITIONS.

TEST#1-

THE FIRST TEST MEASURED, IN INCHES, THE DISTANCE THE BICYCLE TRAVELED. THIS IS COMMONLY REFERRED TO AS "DISPLACEMENT." THE TEST CONSISTED OF MEASURING THE DISTANCE THE BIKE WOULD TRAVEL PLACING THE PEDALS AT DIFFERENT POSITIONS. FOR EXAMPLE, THE PEDAL BEGAN AT "12 O'CLOCK" AND WAS ROTATED IN ONE (1) HOUR INTERVALS COMING TO REST AT "6 O'CLOCK."

EACH PEDAL INCREMENT IS CALCULATED IN INCHES TRAVELED. IN A COMPLETE REVOLUTION, TEST RESULTS REVEALED THE CONVENTIONAL BIKE LAGGED BEHIND, TRAVELING ONLY 386 INCHES, COMPARED TO 629 INCHES BY THE STEPPER BIKE! AND, BECAUSE PUMPING UP AND DOWN IS MORE EFFICIENT MOTION THAN CIRCLING ROUND AND ROUND, IN THE TIME THAT IT TAKES TO COMPLETE ONE PEDAL REVOLUTION ON A CONVENTIONAL BIKE, A CYCLIST CAN ACHIEVE MORE THAN 3 PEDAL STROKES ON THE STEPPER. AS A RESULT, THE STEPPER CYCLIST CAN TRAVEL A GREATER DISTANCE WITH EQUAL PEDALING EFFORT.

TEST #2-

THE SECOND TEST MEASURED THE AMOUNT OF FORCE BEING TRANSMITTED TO THE REAR WHEEL WHEN ENGAGING PEDAL MOVEMENT. GRAPH ILLUSTRATION SHOWS THE CONVENTIONAL BIKE'S DISTRIBUTION OF FORCE AS SEVERLY ARCHING WITH EACH 180 DEGREE PEDAL ROTATION. THIS ACCOUNTS FOR THE DEAD ZONES," THOSE AREAS IN THE PEDAL MOTION WHEN NO FORCE IS BEING TRANSMITTED.

BY CONTRAST, THE STEPPER BIKE'S SMOOTH PUMPING ACTION DISPLAYED AN ALMOST UNIFORM, WAVE-LIKE DISTRIBUTION OF FORCE. TECHNICAL DATA SUPPORTS THAT THE STEPPER BIKE IS MUCH MORE EFFICIENT WITH 90% FORCE BEING TRANSMITTED TO THE REAR WHEEL, WHILE THE CONVENTIONAL BIKE FALLS BEHIND WITH ONLY 63%, CONCLUDING THAT THE STEPPER BIKE TRAVELS A MUCH GREATER DISTANCE WITH AN EQUAL AMOUNT OF FORCE! THERE WAS ONLY A SLIGHT DISCREPANCE BETWEEN PREDICTED (THEORETICAL) AND ACTUAL (EXPERIMENTAL) DISPLACEMENTS, POSSIBLY RESULTING FROM CLUTCH SLIPPAGE.

A REMARKABLE FEATURE OF THE STEPPER BIKE'S PROPULSION MECHANISM IS THAT IT IS SO FAR ADVANCED, IT HAS THE ABILITY TO BE ADJUSTED TO ACCOMMODATE ANY DEGREE OF DESIRED FORCE. THAT MEANS IT CAN BE RETOOLLED TO DECREASE DISPLACEMENT (DISTANCE TRAVELED), BUT INCREASE TORQUE. SO, FOR EXAMPLE, GOING UP A HILL IS MADE MUCH EASIER, AND TRAVELING OVER ROUGH TERRAIN REQUIRES MUCH LESS EFFORT! THIS FULFILLS A BROAD SPECTRUM OF CONSUMER NEEDS.

IN CONCLUSION, THESE TESTS VERIFY PREDICTED RESULTS AND CONFIRM THE OVERWHELMING ADVANTAGES OF THE STEPPER BIKE SYSTEM.