

WORK-ENERGY-POWER

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The 2017 Honda CR-V Stays True to Its Mainstream Roots



INTRODUCTION: The purpose of this application is to find efficiency X of this turbocharged Honda CR-V 2017.

Output Power $P_{\text{OUTPUT}} = X P_{\text{INPUT}} = \text{Work}/\text{time} = W/t =$

$$[1/2 m V^2]/t = X P_{\text{INPUT}} \quad \text{eq. 1}$$

Output work (actual energy passed on to wheels) goes to cars kinetic energy $\frac{1}{2} m v^2$.

HINTS: 60 mph = 88 ft./s. , 550 ft. lb./s. = 1 HP,
Weight = (mass) g , $g = 32 \text{ ft./s.}^2$

QUESTIONS: (a) Find mass in slugs of this Honda CR-V 2017? Weight of CR-V Honda is 3400 lb. (b) Convert 190 HP to ft. lb./s. ? (c) Using equation 1 (above) find this cars efficiency X ? Take time under 8 seconds to be 7.6 seconds.

ANSWERS: (a) 106.25 slugs , (b) 104,500 ft. lb./s. , (c) ~ 49.2 %

The CR-V accounted for about a quarter of Honda's sales in the United States last year. So while the new version is more refined, the company didn't mess with it much. IT seems that the novelist, poet and playwright Oscar Wilde wouldn't like the [Honda CR-V](#) much. This is the guy who wrote, "Everything popular is wrong." [Honda](#) moved 357,335 copies in 2016, making it the most wrong five-passenger crossover sold in America. And yet, for so many families, it's perfect. It is spotted in the middle-class segment that includes [Ford Escape](#), [Hyundai Tucson](#), [Kia Sportage](#), [Nissan Rogue](#) and [Toyota RAV4](#). All but the base LX model run with a 1.5-liter **(((turbocharged 4-cylinder with 190 horsepower)))** and 179 pound-feet of torque. The phrase "nothing succeeds like excess" doesn't apply here, but CR-V moves out smartly with little throttle lag. Going from **(((0 to 60 happens in just under eight seconds.)))** Honda's continuously variable transmission has a sport mode but no ability to shift manually. The new system can send 40 percent of torque to the back tires. Prices start at \$24,985 for an LX model with the base 184-horse 2.4-liter engine. For \$2,650 more, the EX adds the turbo motor, a better sound system, Android Auto and Apple CarPlay, and — here's the important part — a safety technology suite called Honda Sensing. This includes auto braking with pedestrian detection, adaptive cruise control with low-speed follow, lane-departure mitigation and blind-spot warning. USB ports in back offer a way to charge electronics. The cargo hold expands by two cubic feet with the 60/40 split seat backs up, 4.9 with them down. One easy latch pull drops them flat.....the sweet spot is the A.W.D. EX model for \$28,935 that includes the highly recommended Sensing safety features.