Honda CR-V Hybrid EX AWD – Road Test

Published: November 7, 2019

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Online version: https://www.wheels-alive.co.uk/honda-cr-v-hybrid-ex-awd-road-test/



Honda's CR-V has been a formidable contender in the SUV market for nearly 25 years.

Kim Henson assesses the latest 2019 Hybrid version, in range-topping EX form, with all wheel drive and CVT automatic transmission.

Before I describe the current CR-V in self-charging Hybrid form, I'd like briefly to reflect on the history and reliability of the models bearing that name so far.

At the outset I should say that it's no accident nor surprise that over the years the CR-V has become the world's best-selling SUV, with more than nine million having been sold so far (in 150 countries), and with U.K. sales running at about 13,000 vehicles per year.

Remarkably, the original CR-V ('Compact Recreational Vehicle') made its debut nearly a quarter of a century ago, in 1995, and was a trail-blazer in the fledgling SUV market. Through successive generations since then, of course the concept has been updated by Honda, but consistent throughout has been the model's enviable, near-impeccable record for reliability and customer satisfaction.

I'll give you an example that says it all…

One of the regular articles I write each month on a freelance basis for one of my printed magazine customers covers electronic engine management system diagnostics. Looking at a different model each month, and in conjunction with a highly experienced and knowledgeable diagnostic specialist I'll call Edward (as that's his name!), we examine the component set-up of vehicles a few years old, and investigate the various aspects that might potentially turn into problem areas for each model, notably as they age. Part of the feature is to write about three typical inherent faults that may arise on each model…

When it became the turn of the CR-V to come under scrutiny, Edward looked worried. He said, "Kim, we are going to struggle to find a single fault with the CR-V to write about, let alone three!" By coincidence and by contrast, on the same day we were also looking at a rival model, for which Edward commented, "Kim, for this one we could write a book!".

Through my various trade contacts, and by talking at length with owners, it has been confirmed that this highly positive view of the dependability of the CR-V and Hondas in general is widespread, and applies to all generations of the vehicles. Quite simply, they are, and always have been, well-engineered and built to last, with inherent long-term reliability an important aspect of the buying proposition, thus deservedly earning respect from the people who buy, sell and maintain these vehicles.

This is comforting for potential buyers and is relevant to this write-up as it bodes well for future ownership of the latest 'high tech' versions of the CR-V, including the necessarily complex hybrid variant under review in this feature.



Self-charging hybrid

By contrast with pure electric or plug-in hybrids, the CR-V employs a ‘self-charging’ hybrid electrical system (that is to say, one in which the car’s battery pack does not need to be recharged by external electrical infrastructures/charging points). Honda’s arrangement incorporates an internal combustion engine, designed to work seamlessly with an electrical propulsion system, to minimise operating emissions and to stretch each tankful of ‘liquid gold’ petrol over as many miles as possible.

Yet, being a Honda, by design the vehicle also has to provide driving pleasure, practicality and performance in spades, and appeal as a spacious, practical high quality SUV for everyday motoring.

Of course, for the future, as with all manufacturers Honda is developing vehicles powered only by electricity, but for now, and for many buyers, hybrids are realistic, practical and energy-efficient. For many people, self-charging hybrids like the CR-V are easier to live with than plug-in hybrids or pure electric models, which require electrical 'topping-up' from external sources. Self-charging hybrids also avoid any potential problems of 'range anxiety', since when required the car can be driven over long-distances using the petrol motor, as for any vehicle powered by a traditional internal combustion engine.

Honda's Hybrid History

It is significant that Honda has much experience in producing self-charging hybrid vehicles, in fact during a period of over 20 years since their lightweight and aerodynamically-efficient Insight model arrived in 1999. This ground-breaking car incorporated an 'Integrated Motor Assist' (IMA) propulsion system, in which a lean-burn type three cylinder 1.0 litre petrol engine worked in harmony with (and was assisted by) an electric motor, to reduce emissions and fuel consumption, yet also provide good performance (more typical of a contemporary 1.5 litre conventional petrol engine set-up).

As well as assisting the internal combustion engine, the electric motor was harnessed to act as a generator during deceleration and braking (to recharge the car's batteries) and was used as the starter motor for the petrol engine.

Fast-forward to 2019 and the latest CR-V Hybrid, available in two wheel drive and all wheel drive forms, has been developed by Honda with the benefit of all those years of experience in this field, and with the company's well-respected attention to detail in engineering terms. Therefore today's hybrid system from the company has similar aims to those applicable to the Insight (vital in the quest to minimise emissions and fuel consumption), but with levels of sophistication and efficiency only dreamed about two decades ago.

(Note: Four wheel drive versions of the CR-V are equipped with Honda's trademarked 'Real Time AWD with Intelligent Control System').

In the Hybrid versions of the CR-V, at the heart of the vehicle is a petrol engine that operates in conjunction with two separate electric motors. One of these is used for propulsion, the other acts as a generator.

These three separate units are controlled by Honda's 'intelligent Multi-Mode Drive' (i-MMD) management system software, which cleverly co-ordinates operation and offers three driving modes ('Electric', 'Hybrid' and 'Engine' drive). The system automatically alternates between these three modes according to specific driving situations and energy requirements applying at any given time.

The petrol engine is a 2.0 litre four cylinder i-VTEC (standing for 'intelligent-Variable Valve Timing and Electronic Lift Control') unit, mounted transversely at the front of the car and assisted when advantageous to do so, by the electric propulsion motor. Meanwhile the car's battery pack, located at the rear of the vehicle, is recharged by the second electric motor, acting as a generator when the car is under deceleration and/or when braking.



Although I'd love to delve more deeply into the operation of the CR-V's petrol engine, I'd need dozens of pages so will suffice by saying that this motor is technically fascinating, and will try to summarise the way it works…

Applying and modifying their highly effective and ultra-reliable i-VTEC variable valve timing system, Honda engineers have developed a 'simulated' version of the 'Atkinson cycle' engine (invented in 1882 by James Atkinson). Originally this type of engine improved fuel efficiency by reducing the volume of air/fuel mixture brought into the engine on the inlet stroke and compressed during the compression stroke. The resulting smaller than usual air/fuel mixture charge would burn more efficiently than in a traditional four stroke engine, but still provided good levels of power and torque.

In their hybrid application petrol engine of today, Honda employs one of the i-VTEC inlet

cams to delay the closing of the relevant inlet valve on the compression stroke, until much later than is normal. Again the smaller than usual volume of air/fuel mixture is then ignited more completely and efficiently on the power stroke.

By contrast the other inlet cam is timed in a similar way to that of a conventional petrol engine, to deliver higher performance when required, so effectively the one engine is capable of delivering two different sets of characteristics, depending on the specific requirements at any given moment when driving.

Of course, by its nature the petrol/electric motor system is complex and computer-controlled, but it has been designed to make operation easy for the driver. In essence the car is driven in the same way as a normal automatic vehicle, with switches between operation of the electric and petrol motor drive systems, and 'regeneration' mode, being made automatically by the system with no driver intervention required. An easy-to-assimilate information panel is incorporated into the instrument panel, advising the driver when the vehicle is being driven by the petrol engine, when the electric propulsion motor is doing its work, and when the regenerative mode is brought into play (i.e. re-charging the propulsion battery pack).

Well-equipped

Apart from the technical aspects, the CR-V Hybrid is a comprehensively-equipped SUV, and is refreshingly spacious for passengers and luggage accommodation.

Four trim levels are available, starting with the two wheel drive (only) S, priced at £25,995 'On the Road', then moving up to the SE, offered in two wheel drive form at £31,015, or with all wheel drive for £32,115.

Representing the next rung when climbing the specification ladder is the SR, costing £33,495 with two wheel drive, or £34,595 with all wheel drive.

At the top of the tree in terms of useful 'fixtures, fittings and gismos' is the EX, available

only in four wheel drive form and priced at £37,305.

It should be mentioned that *all* versions are highly specified when it comes to safety systems and components. They all incorporate: eCall (emergency call system), a traffic sign recognition set-up, Adaptive Cruise Control, an intelligent speed limiter, Brake Assist, a vehicle and trailer stability assist system, Agile Handling Assist, tyre pressure monitoring, Collision Mitigation Braking, Forward Collision Warning, Lane Keep Assist and Lane Departure Warning, plus four frontal airbags and an array of front and rear curtain type airbags.

On Test

My test car for a week's motoring was the EX all wheel drive version (with CVT automatic transmission). Its list price is £37,305, plus £550 for its metallic paint finish, bringing the total up to £37,855. I found it refreshing that the test vehicle was not laden with extra-cost options, so could be assessed in its standard specification.

I should say that it is opulently-furnished and has a comprehensive list of standard fittings too. I don't propose to write a catalogue of them all, but will highlight some of the EX niceties, including a large opening panoramic sun roof (electrically-operated), heated front *and* rear seats, electric adjustment (with 'memory' function) for the driver's seat, a heated steering wheel, a 'heads up' display, additional ambient interior lighting (compared with lower specification versions), and 'hands free' operation for the power-operated tailgate. All this in addition to the dozens of standard fittings that increase model by model as one moves up through the range. A range of state-of-the-art connectivity systems is provided too.

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All those who travelled in the CR-V during my time with it praised the attractive interior which looked and felt 'high quality'. Particular highlights noted were the heated rear seats, the large panoramic sun roof and its snug headlining cover, and the comfort provided by the seats themselves.

The generous interior space was also enjoyed by all passengers, front and rear, with head and leg room being excellent throughout the car.

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Oddments stowage compartments abounded too, with deep door pockets (longer in the front doors than those in the back), a deep multi-mode storage box within the centre console, and a useful capacity glovebox. Twin cup holders are built into the rear seat's folding central arm rest.

Noted positively by everyone were the four wide-opening doors, with built-in 'intermediate' stop settings, so that when the doors were opened in tight parking spaces, they stopped about 'halfway' to fully open, to help prevent them banging against adjacent walls, vehicles, etc.



In fact, as with many modern SUVs, the car is quite wide, and I found that width-wise if virtually filled up most parking bays encountered during my week-long test.

Driving the CR-V proved to be easy and there should be no fears from those not used to hybrid vehicles, about operating this model. It's as straightforward as any conventionally powered automatic to drive, since the electronic control systems constantly monitor the driving conditions and driver input, to most effectively activate the electric propulsion motor, petrol engine or regeneration electric motor.

I found that the simple to read, easy-on-the-eye instrument panel, positioned immediately ahead of the driver, was a model of clarity, a good starting point in this respect being the large digital display for the vehicle's speed; no excuse for mistaking this.

To the left of the panel is a battery power level indicator, while to the right is the conventional fuel gauge.

Running across the top of the instrument cluster is a coloured display that illuminates according to the vehicle's specific driving situation, with a datum position through which the 'needle' (electronic line/bars) moves constantly from left and right and back again. Coloured bars light up according to the degree of power or regeneration/battery recharging taking place; blue bars to the right show power being used; green bars to the left indicate the degree of regeneration happening (in each case the greater the number of bars, the higher the level of power being used/regeneration taking place).

To the left of this arrangement is a green motor car icon, which illuminates when petrol power is being used. When electrical power propulsion is occurring, or under regeneration, the letters 'EV' light up in green above the 'car' icon.

This set-up is easier to understand/make note of when driving the car than it is to describe, but suffice to say it works well!

It should also be mentioned that, regardless of vehicle speed and acceleration rate, neither I nor any of my passengers could feel nor hear any hint of 'switching' delay between the three drive modes. All such automatically-activated changes occurred silently and so smoothly that no variation between modes could be detected. Marvellous.

A touch on the 'Econ' button on the centre console brings up a green 'tree' emblem on the dash, and this is the mode that I left engaged for most of my time with the car. It was easy to switch out of 'Econ' mode too, sharpening up the vehicle's performance responses, but for normal driving the Econ setting proved to be just fine, with plenty of power available while minimising fuel consumption.

When moving off from rest, the car runs near-silently on the electric drive motor, switching to petrol power as speed and acceleration rate increase. Easing off on the throttle pedal brings into play the regeneration/battery recharging mode, with simultaneous illumination

of the instrument panel's green bars referred to earlier.

Eager performer

I discovered that the car accelerates effortlessly both in electric and petrol power drive modes, and is quiet-running on the petrol engine. As speed increases, and especially under rapid acceleration, there's a subdued whirring noise as the petrol engine does its work, but it is in no way harsh, loud or intrusive.

In fact I found that it's a very nippy vehicle, soon reaching easy-running cruising speeds once out of town, with hushed refinement being the order of the day at 70 mph and all lower speeds.

Despite this being a large car, I found that it handles well on twisting country lanes as well as meandering main roads. Much of my test-driving was carried out in autumnal conditions, with heavy rain and surface water often prevalent, and with the tarmac covered with mud and leaves, even on main routes. However the grip offered by this Honda, with its all wheel drive system (standard on the EX version as tested) was impressive and reassuring at all times.

I found the car easy to drive in town too, with close manouvres generally unhindered by its size. Helping in such situations were the standard-fit and essential reversing camera (activated by a press on the separate 'reverse' button), and the large side mirrors.

Worthy of mention is the accommodating ride quality, appreciated by this driver and all my passengers, with minor surface imperfections and major potholes being shrugged off by the large diameter wheels and tyres (which are less 'low profile' in nature than many on today's SUVs) and the suspension, without upsetting the even keel of the bodywork.

There was some tyre noise evident on indifferent road surfaces, but for me this was not a major issue.

Personally I favour mechanically-operated parking brakes (in general), but the electrically-activated parking brake system on this CR-V incorporates an ‘interlock’ that will not permit the brake to be disengaged unless the footbrake pedal is first depressed.

I appreciated the effective headlights (on both main and dipped beams) and wipers, the perfectly-weighted power steering and the reassuringly good brakes.

The central touch screen system worked well, but I was pleased to find that traditional rotary controls are still provided for the climate control system temperature (individually adjustable for the driver and front seat passenger, or ‘synched’/matched between the two if desired) and sound system volume control.

However, personally I feel that there are still too many controls operated via menus within the touch screen system; this is not unique to Honda.

The satellite navigation set-up was clear, intuitive and easy to use.

The ‘hands-free’ operation, high-lifting tailgate opens from bumper height to reveal a flat-floored luggage compartment that is long, wide and tall. By my measurement, with the 60/40 split rear seat backs folded (a quick and easy push-button operation) and the front seats set approximately mid-way along their fore/aft settings, there is an available load length of more than six feet (about 193 cm). Such welcome practicality certainly helps in everyday use and ownership.

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By contrast, there’s no spare wheel, although a tyre inflation ‘repair’ kit is located in a shallow compartment beneath the boot floor.

Fuel consumption?



The official ‘Combined’ fuel consumption figure for the all wheel drive version of the CR-V is 51.4 mpg (compared with 53.3 mpg for the two wheel drive versions).

Our all wheel drive test vehicle recorded an average of 47.3 mpg over a total distance of just over 273 miles, which included motorway use, many miles on country lanes, quite a bit of driving in town and some atrocious weather conditions. While a little short of the official figure, this is still pretty good I feel, for a spacious, lively and quite large SUV.



On this CR-V, Honda's on-board computer system display can be set to display previous average fuel consumption figures (obtained between re-sets of the twin 'trip meter' mileage recorders).

From these readouts it seems that the figures recorded previously on the test car I was driving, in the hands of other drivers (in unknown driving conditions) had varied between around 33 mpg to nearly 42 mpg.

VERDICT

The hybrid technology built into this well-engineered SUV has been designed with ease of

use and attention to detail in mind, and it shows. The system works unobtrusively to provide an experience that rewards in terms of low emissions and running costs as well as driving satisfaction.

This CR-V is a user-friendly vehicle for families too, and I award top marks for everyday practicality. It's also opulently-furnished and very well-equipped, as befits a top-of-the range Honda model.

I expected this car to be good, and it reality it exceeded my expectations. For many SUV buyers not yet ready to take the plunge into plug-in hybrid or fully electric vehicles, or indeed who positively prefer a self-charging hybrid, this latest CR-V is effective, easy to drive and to own. Well done Honda.



WHEELS-ALIVE TECH. SPEC IN BRIEF:

Honda CR-V 2.0 Hybrid EX AWD CVT.

Engine: Four cylinder, 2.0 litre (1993cc) twin overhead camshaft petrol engine (simulated ‘Atkinson cycle’), plus electric propulsion motor.

Transmission: Automatic CVT, all wheel drive.

Power: 143 PS @ 6,200 rpm.

Max. Torque: 220 Nm (162 lb.ft) from 1,900 to 5,000 rpm.

Performance:

0-62 mph: 9.2 seconds.

Top speed: 112 mph.

Fuel consumption:

Official WLTP figure: Combined, 51.4 mpg.

Achieved during our Wheels-Alive test, over 273 miles, average 47.3 mpg.

Estimated mileage range on a full tank (57 litres or 12.5 Imperial gallons), at our actual achieved mpg: Approximately 590+ miles.

CO2 Emissions: 126 g/km.

Warranty: Three years/90,000 miles.

Insurance Group: 15E.

Euro NCAP rating: 5*.

Dimensions:

Length 4,603 mm (15.10 ft), Width (including door mirrors) 2,117 mm (6.95 ft), Height 1,689 mm (5.54 ft).

Luggage capacity: 497 to 1,697 litres (17.55 to 59.93 cu.ft).

Five doors, five seats.

Max. towing weight, braked trailer: 750 kg (1,653 lb).

Price ('On the Road'): £37,305. (Plus, on our test car, Metallic paint £550, making a total of £37,855).