# Road Beat: Kia jolting the EV market

The 2017 Kia Optima PHEV is impressive to drive. Photos/Larry Weitzman

**By Larry Weitzman**

While electric vehicles seem to be all the rage, sales are still dismal with sales being about one-half of 1 percent of the entire automobile market. Pure electric cars are expensive and suffer from limited range and range anxiety. Cars aren't for pushing, they are for driving.

Kia has taken the beautiful and stylish Optima body, stuck another small spring-loaded door on the left front fender to access a port for the plug-in receptacle, added a 9.8 kWh L-I battery behind the rear seat and tire well (to increase trunk space) and 67 hp electric motor mounted to the six-speed

automatic cog-swapper. Modifications to the body, such as active grille doors to smooth airflow in front and a diffuser in the rear, reduce wind resistance to a co-efficient of drag of 0.24 equaling a Tesla S.

Optima is a true midsize riding on a 110-inch wheelbase supporting a 191-inch body that stands 58 inches tall with an aggressive 73-inch width.

Power comes obviously from two sources, a 2.0L Atkinson Cycle, DOHC, 16 valve direct injected inline four that cranks out 154 hp at 6,000 rpm and 140 pounds of twist at 5,000 rpm. If the numbers seem slightly depressed from other 2.0L high performance four bangers, it's because this is a higher efficiency Atkinson cycle engine. The electric motor with the L-I battery at full charge is the main motive source for this PHEV. Combined they push out 202 hp and 276 pounds of twist. And it certainly feels like it.

**Specifications**

Price $36,105 to $41,750

**Engine**

2.0L DOHC, 16 valve, direct injected inline four cylinder 154 hp @ 6,000 rpm; 140 lb.-ft. of torque @ 5,000 rpm

67 hp electric motor

9.8 kWh L-I battery, max

output 91 hp
Combined Max hp 202 hp @ 6,000 rpm
276 lb. ft. of torque @ 2,330 rpm

**Transmission**

Six speed torque converter automatic

**Configuration**

Transverse mounted front engine/front wheel drive

**Dimensions**

Wheelbase 110.4 inches
Length 191.1 inches
Width 73.2 inches
Height 57.5 inches
Ground clearance 5.1 inches
Track (f/r) 63.1/63.4 inches
Weight 3,788 pounds
Fuel capacity 13.4 gallons
Trunk capacity 9.9 cubic feet
Passenger capacity 104.8 feet
Steering lock to lock 2.78
Turning circle 35.8 feet
Wheels 7.0X17 inch alloys
Tires 215/55X17
Co-efficient of drag 0.24

**Performance**

0-60 mph 7.52 seconds
50-70 mph 4.01 seconds
50-70 mph uphill 5.65 seconds
Top speed plenty fast
Fuel economy EPA rated 103 MPGe/40 mpg gasoline only.

Overall in rural country driving expect 60 mpg. On the highway at legal speeds should net 46 mpg.

You cannot run the battery down to zero. It always holds some charge so it can operate as a regular hybrid. When I plugged in after 40 miles the battery showed a 19 percent charge or about double the energy in a fully charged regular hybrid battery.

Performance is above average for this class of cars with 0-60 mph arriving in 7.52 seconds, certainly equal or better than the Chevy Volt. Passing times are also good with a level 50-70 mph pass of 4.01 seconds and the same exercise uphill slows that time by a second and a half to 5.65 seconds.

What makes the Optima EV outstanding is the pure electric performance. Even with what would seem a modest power output of just 67 hp from the electric motor alone, it is very responsive and acceleration is strong, so strong I kept looking for the engine to be running but it never lights off, even with half throttle which will push you back in the seats with authority. Transitions between the EV and the integration of the gas engine is absolutely seamless. This Optima is fun to drive.

I just finished a 40-mile trip with many stops and the Optima was able to remain in full electric up to the last mile, 39 miles, basically the EV driving range. Optima says the system should yield about 29 miles. Pure electric speeds exceeded 70 mph even up a slight grade.

I plug it in nightly and even during the day if my trips are spaced out and for the last 300 miles, which includes a one-day round trip to Carson City of 198 miles where it averaged 52.4 mpg. Optima average is 62 mpg for that 300 miles. At 70 mph on the highway in HEV mode, Optima PHEV will return 46

mpg. EPA numbers which are a bit confusing rated the Optima at 103 MPGe and 40 mpg only on gasoline. In overall driving the average will easily exceed 50 mpg. Amazing, especially with the kind of performance this Optima can produce. Fuel tank is 5 gallons less at 13.4 gallons, so highway range will be less than a conventional Optima.

But there is a rub, especially here in California, electricity is very expensive. I am paying 30 cents a kWh meaning even at four miles a kWh it costs me 7.5 cents a mile for energy. Gasoline only costs about 6 cents a mile. I understand there are some incentives offered by utilities to subsidize that cost, but it doesn't really lower the overall cost, it just shifts the cost burden to someone else.

But California is the anomaly, as the average cost of electricity across the U.S. is about 12 cents a kWh meaning the cost per mile is about 3 cents a mile or about one half of gasoline. The average in California is about 16 cents a kWh, but as with El Dorado County rates increase as you use more. If the U.S. were more nuclear, the cleanest and cheapest form of power, costs would drop even further.

The other negative with a PHEV is the additional weight, although Kia has done a great job of adding a second power system (battery, electric motor and system components) with just a 300-pound weight penalty. Not bad, Kia.

In comparison to the Volt, which is supposed to run almost 50 miles as an EV before the engine lights off, the Optima PHEV has more performance and a much larger cabin as the Volt is a compact car with a much smaller cabin. While I haven't tested the Volt, overall mileage might be just a bit better as it has twice the battery capacity.

Other than carrying an extra 300 pounds, suspension is similar to other Optimas, with all four corners sprung independently, roll bars at both ends and coil springs in all the corners.

Steering is a quick electric rack at 2.8 turns lock to lock. It rides on 17 x 7 inch alloys which must have been designed for aerodynamics and not looks, shod with 215/55 tires. Nothing special here. While a Miata would smoke the Optima PHEV in the twisties and it might not set any Nürburgring records it handles predictably with descent cornering power, certainly more cornering power than any of its drivers will ever demand. I pushed it pretty hard and it complied, changing directions without complaint. Turning circle is reasonably tight at 36 feet.

If you expect a soft floaty ride, look elsewhere. In fact, while the ride is well controlled and incredibly quiet, especially when operating as an EV, over bumps it is firm, not harsh or jolting, just firmer than anticipated. There is no tach, so no 70-mph rpm. There is also no wind noise and little tire noise.

Safety begins with the driver, but to help you along, Optima PHEV has all the acronyms, rear camera and air bags plus with the EX Tech ($5,250) package comes blind spot detection, lane departure warning, auto high beams, forward collision warning, emergency braking and more.

Leather is the material of choice in the high-quality interior. There is no tach but the rest of the instruments are front and center including a couple of trip meters and a battery level meter to tell you how much you have left. Seating is comfortable, if not on the firm side and the rear seating is good for three adults with plenty of shoulder and leg room. The supposedly large trunk is still small by mid-size car standards at a well-shaped 10 cubic feet also down by about 5 cubes over the conventional Optima.

Pricing starts at $35,210 plus $895 for the boat ride from South Korea. My tester has the tech package plus a special snow-white pearl paint ($395). This is a remarkable ride demonstrating just how good the technology is. Imagine 60 mpg

and 0-60 mph is 7.5 seconds. How do they do that?

*Larry Weitzman has been into cars since he was 5 years old. At 8 he could recite from memory the hp of every car made in the U.S. He has put in thousands of laps on racetracks all over the Western United States.*