Road beat: Sonata redefines hybrid

A hybrid worthy of the Sierra. Photos/Larry Weitzman

By Larry Weitzman

Let’s get one thing clear from the beginning, this new second generation Sonata Hybrid is the best hybrid I’ve ever tested. Understand there still are some hybrids I haven’t driven including some of the newer PHEV’s like the Chevy Volt. What makes this Sonata Hybrid so good are its seamless transitions between gas and electric, the smoothness of the gas engine coming on line (it doesn’t drive like a hybrid), its incredible fuel economy and its overall performance all while exhibiting excellent driving characteristics and the smoothness and quiet of a (near) luxury car.

Sonata Hybrid starts with a beautiful Sonata body and platform

with a slightly different grille and other mods some that aren't readily apparent, and its own set of low drag wheels that don't exactly excite. But when the car goes down the road, you can't see them anyway and in motion they look OK. It has a coefficient of drag of 0.24, which is like the limbo, "how low can you go." That's one slick wind cheating body.

Size-wise, the Sonata is a mid-size on the outside, but is less than half of a percent of having a full-size car interior. Overall, it is 191-inches long, a wide 73 inches and stands 58-inches tall. Track is huge at 63 inches, front and rear. Remember those numbers for later.

Specifications

Price $30,975 to about $36,000

Engine

2.0L DOHC, 16 valve, inline four 154 hp @ 6,000

140 lb.-ft. of torque @ 5,000 rpm

Electric package

38 kW electric motor (51 hp)

Battery 1.62 kWh Lithium-polymer, max output 56 kW (75 hp)

Transmission

Six-speed (no torque converter) automatic

Configuration

Transverse front engine/motor//front wheel drive

Dimensions

Wheelbase 110.4 inches

Length 191.1 inches

Width 73.4 inches

Height 57.9 inches

Track (f/r) 63.1/63.6 inches

Weight 3,560 pounds

Fuel capacity 15.85 gallons

Trunk capacity 13.3 cubic feet

Passenger volume 106.1 cubic feet

Wheels (std/opt) 16X6.5/17X6.5 inch alloys

Tires (std//opt) 205/55X16//215/55X17

Steering lock to lock 2.78 turns

Turning circle 35.6 feet

Co-efficient of drag 0.24

Performance

0-60 mph 7.18 seconds

50-70 mph 3.98 seconds

50-70 uphill 5.62 seconds

Top speed you are kidding, right? Ok way into triple digits.

Fuel economy EPA rated at 39/43/41 mpg. Expect 43 plus mpg in rural driving, 45-46 mpg on a level highway at 70 mph.

Under the hood are two power systems, a 2.0L 154 hp at 6,000 rpm, 140 pounds of twist at 5,000 rpm inline four plus a 51 hp electric motor which allows for a maximum concerted effort of 193 hp at 6,000 rpm. Of course your next question, why not 205 hp? The simple answer is that the 1.62 kWh L-po battery pack located in the trunk floor (so it does not significantly reduce trunk capacity) has an output of 56 kWh, which is equal to 75 hp. But at 6,000 rpm when the engine is producing 193 hp, peak hp of the electric motor is 39 hp which when added to 154 equals 193 hp. In hybrid cars, it's not how powerful the electric motor is, it's usually governed what is the maximum battery output or peak engine rpm hp. You can forget about the technical drivel, as it's all smoothly integrated through a silky six-speed tranny that drives the front wheels. The electric motor is between the tranny and engine and supplants the torque converter to improve fuel economy. Trick stuff.

All those machinations produce a high performance automobile with a 0-60 mph time of just 7.18 seconds. Passing times also reflect quality performance with a 50-70 mph time of 3.98 seconds and the same parameter up a 6 percent grade only slowing that time to 5.62 seconds. Compared to a Prius, the Hyundai is a rocket ship and it outperforms all standard mid-size normally aspirated four cylinder sedans, even its sibling Sonatas. This Sonata is a peppy vehicle, step on the accelerator with authority and it will get your attention pronto.

But in the Sonata Hybrid's case performance and fuel economy are not mutually exclusive. At 70 mph the Sonata averaged 45.6 mpg and on a 200-mile highway trip with about 20 percent of the time in congestion, it averaged 44.5 mpg. On a 165 miles round trip from Placerville to South Lake Tahoe the Sonata Hybrid averaged an incredible 47.6 mpg and during the 50 miles of downhill on the western slope, over 80 percent the Sonata operated as a pure electric vehicle with traffic operating at least 55 mph (the speed limit) in the 30 miles of two lane

road (echo Summit to Ice House Road). Imagine going to Lake Tahoe and back on less than 4 gallons of gas. Overall, the Sonata Hybrid averaged 43.7 mpg for 539 miles of driving. Oh, the EPA numbers are 39/43/41 mpg city/highway/combined. This is the first hybrid tested that has exceeded its EPA numbers.

So how does it ride and handle? A one-word answer is “great.” Suspension is state of the art independent in all four corners with specific high performance shocks and stab bars at both ends. Quick rack and pinion electric power steering (2.8 turns lock to lock) while a bit numb, has good feel and weighting. Track is wide and the tires are decent sized 215/55X17s with all of this giving very good cornering power and surprisingly good handling. Yeah sure, it doesn’t have the credentials of sports car, but it gives the driver plenty of confidence when being pushed hard in the twisties. It is a capable handler.

Ride quality, especially with its “think in a whisper quiet” is excellent. What a great road car and around town it’s a veritable sponge when it comes to bumps. There is no tach, but engine rpm at 70 mph should be close to a low 2,000 rpm. But it’s most fun when you are able to run pure electric at 60 and sometimes even 70 mph. Much of that ability is due to its compact, high capacity battery and in its management. Its energy storage is significant larger than some other hybrids.

Braking power with its large four wheel ventilated discs arrested forward progress from 40 mph in 42 feet. In most mid-size cars, only the front discs are ventilated. My loaded tester had every safety devise including lane departure warning, pre-emptive braking, stability control and probably oxygen masks that drop from the ceiling at 10,000 feet (Colorado’s Independence Pass exceeds 12,000 feet or maybe good for a Pike’s Peak run). Just kidding about the masks. With turbocharging, an engine can make sea-level hp to high altitudes. In a normally aspirated engine car, at 10,000 feet it is making 30 percent less hp or a 200 hp engine at 10,000 feet is only capable of 140 hp. A turbo engine with a higher

critical altitude still makes 200 hp. Would this Sonata be great in the Sierra or Colorado.

Inside is a nearly full size interior. At 106.1 cubes, it is actually bigger than some full sized counter parts. But its slightly smaller trunk of 13.3 cubic feet (the battery takes the place of where a spare tire would have gone), it misses being a large car by half a cubic foot. But a nice interior it is with sublime standard power everything, leather on the seats including heating and cooling in the front and heat in the rear. Rear seats are perfect for a basketball team's front line.

Comfort is one of the hallmarks of this vehicle.

As with most hybrids, there is no tach which in this case is replaced by a battery use meter from 0-100 percent. OK, but the rest of the instrumentation is clear, concise and complete. Fit and finish demonstrate the fabulous quality of a car that stickers for $30 large plus $825 for the boat from Asan, Korea, (a first class car should be afforded first class accommodations).

My tester had the $4,500 Ultimate package which offered a full glass roof sunroof, an eight inch nav, upgraded radio, smart cruise, and lane departure, forward collision warning and more. Otherwise the base model is extremely well equipped. The total cost of admission all in is $35,765. That is less than

my last Prius 5 tested about 10 months ago which did 0-60 mph in 9.48 seconds, had passing times of 2-5 seconds longer, but returned about two mpg more on the highway but the overall fuel economy was only one mpg more.

One more comparison is to that of the Sonata Eco which virtually has identical performance numbers and was only one mpg short on highway fuel economy. But overall fuel economy averaged about eight mpg less. Those are great numbers, too. And with a base price of about $24,000 (not as well equipped as the Hybrid), it offers and interesting dilemma.