

Dynamics

BY JOE SAGE

HYUNDAI TUCSON

hit the market sixteen years ago, born into a world in which people were torn between the useful attributes of a big SUV or the generally lower operating costs of a sedan. A small SUV was still a bold, relatively new idea at the time, and this one went straight to our March-April 2005 cover.

That Tucson started at \$19,999, and at the time we noted it had so many features, “we’re hard pressed to create a wish list for more,” adding that “more small SUVs are on the way, for reasons of fashion and economy both, but in this niche, Hyundai is doing a good job of leading the way.” The more things change, the more they stay the same.

Hyundai’s broader lineup today includes a variety of powertrains—from conventional gasoline engines to hybrid, plug-in hybrid, EV and even fuel cell—to specialty builds and trims including N (performance) and N Line (performance styled) models. You’ll recall the new Hyundai Ioniq dove into the marketplace aggressively in 2017, simultaneously offering hybrid, plug-in hybrid and pure electric versions at launch. Today, about 40 percent of compact SUV buyers are considering a hybrid and 20 percent a PHEV. Elements of all of the above come together in the fourth-generation 2022 Hyundai Tucson.

POWERTRAINS: First out of the chute are a regular internal combustion gasoline-engined Tucson and a Tucson Hybrid, with an N Line and a plug-in hybrid following closely. (At launch, we drove the regular and hybrid and saw the N Line.) Whereas the aforementioned Ioniq lineup was released with Hybrid, Plug-In and Electric badging for its three powertrains, the new Tucson lineup is self-identifying as ICE, HEV and PHEV—internal combustion engine, hybrid-electric vehicle and plug-in hybrid. With gasoline engines the default

for so long, the ICE term has not been widely used at the consumer level. But as powertrain options grow and notably shift toward electric, Hyundai is apparently tapping into this nomenclature to clarify—and spotlight—the full range of possibilities.

Hyundai may likely start yet another trend with this. Throughout the industry, many aim to relegate internal combustion vehicles to a fading specialty niche. “Hybrid” is increasingly interchanged with “HEV.” The EV term is already almost universal. Plug-in hybrids, an advanced and appealing solution, are often poorly understood by buyers. “Electrified powertrain” is widely used to (probably intentionally confusingly) encompass EVs, hybrids and plug-ins. All will surely benefit from the new Hyundai labeling scheme, though ICE may be the biggest mental adjustment.

STYLING: The greater Hyundai chaebol has its own steel plants—the world’s second-largest operation—one reason Hyundai Motor Company stays at the front of the wave in body styling, augmented by its North American design studios for

(cont’d)



2022 HYUNDAI TUCSON LINEUP

GASOLINE (I.C.E.)

2.5L GDI + MPI 4-cyl / 187 hp / 178 lb-ft
8-spd auto / fwd or HTRAC AWD

SE.....fwd.....\$24,950
.....AWD.....26,350

SEL.....fwd.....26,500
.....AWD.....27,900

SEL Convenience.....fwd.....29,100
.....AWD.....30,500

N Line.....fwd.....30,600
.....AWD.....32,000

SEL Premium.....fwd.....30,800
.....AWD.....32,200

Limited.....fwd.....34,700
.....AWD.....36,100

HYBRID / PLUG-IN HYBRID (HEV / PHEV)

1.6L GDI Turbo 4-cyl / 180 hp / 195 lb-ft
6-spd HEV auto / all are HTRAC AWD

HEV Blue.....\$29,050

SEL Convenience.....31,650

Limited.....37,350

PHEV SEL.....tba

Limited.....tba

DESTINATION.....\$1,185

POWERTRAINS

GASOLINE ENGINE (I.C.E.)

ENGINE.....Smartstream 2.5L GDI+MPI
alum/alum DOHC 16v 4-cylinder

HP/TORQUE.....187 hp / 178 lb-ft

COMPRESSION RATIO.....13.0:1

TRANSMISSION.....8-spd auto

optional paddles, opt shift-by-wire

DRIVETRAIN.....FWD / opt HTRAC act od AWD

MPG.....(FWD) 26/33/29 (city/hwy/comb)

.....(AWD) 24/29/26 (city/hwy/comb)

HYBRID & PLUG-IN HYBRID (PHEV)

ENGINE/TRANSMISSION/DRIVETRAIN (BOTH)

ENGINE.....Smartstream 1.6L turbo-GDI
alum/alum DOHC 16v 4-cylinder

HP/TORQUE (ICE).....180 hp / 195 lb-ft

COMPRESSION RATIO.....10.5:1

TRANSMISSION.....6-spd HEV gen-II auto

incl paddles and shift-by-wire

DRIVETRAIN.....HTRAC actv on-demand AWD

HYBRID MOTOR/BATTERY:

HYBRID STARTER/GENERATOR..13 kW / 32 lb-ft

ELEC MOTOR.....44.2 kW (59 hp) / 195 lb-ft

BATTERY.....Lithium-Ion Polymer 270V

CAPACITY/OUTPUT.....1.49 kWh / 64 kW

TOTAL SYSTEM POWER.....226 hp

MPG (hybrid).....Blue 38/38/38 (city/hwy/comb)

.....SEL Conv/Ltd 37/36/37 (city/hwy/comb)

PHEV MOTOR/BATTERY:

ELEC MOTOR.....66.9 kW (90 hp) / 224 lb-ft

BATTERY.....Lithium-Ion Polymer 360V

CAPACITY/OUTPUT.....13.8 kWh / 88 kW

TOTAL SYSTEM POWER.....261 hp

ALL-ELECTRIC RANGE.....32 miles

ON-BOARD CHARGER.....7.2 kW @240V

CHARGING TIME.....1 hr 40 min

MPG (PHEV).....35 (comb) / 79 (MPGe)

SPECIFICATIONS

ALL MODELS

SUSPENSION.....F: MacPherson strut w coils,
gas shocks, stblzr bar;

R: multi-link, gas shocks, stblzr bar

STEERING.....motor-driven rack & pinion,
column-mounted

BRAKES.....F: 17" 325mm vented;

R: 16" 300mm solid

LENGTH / WHEELBASE.....182.3 / 108.5 in

TURNING CIRCLE.....38.6 ft

GROUND CLEARANCE.....fwd 7.1 in / AWD 8.3 in

TOW CAPACITY.....(w trailer brakes) 2000 lb

.....(w/o trailer brakes) 1650 lb

VARY BY MODEL

WHEELS / TIRES

.....(ICE, Blue hyb) 17x7.0J alloy / 235/65R17

(other hyb/PHEV) 19x7.5J alloy / 235/55R19

HEADROOM (F/R).....(w/o sunroof) 40.1 / 39.5 in

(w sunroof, ICE) 38.3 / 39.5 in

(w pano sunroof, ICE) 38.1 / 39.0 in

(w pano snrf, hybrid/PHEV) 38.1 / 38.7 in

LEGROOM (F/R).....(ICE) 41.4 / 41.3 in

(hybrid) 41.1 / 41.3 in

(PHEV) 41.1 / 39.5 in

CARGO CAPACITY (RANGE SAE-MAX)

.....(ICE) 38.7-41.2 / 73.8-80.3 cu.ft

.....(hybrid) 38.7-41.2 / 73.3-80.3 cu.ft

.....(PHEV) 1.9- tbd / 65.2- tbd cu.ft

WEIGHT.....(ICE) 3329-3651 lb

.....(hybrid) 3644-3752 lb

.....(PHEV) tbd

FUEL / CAPACITY.....(ICE) unl reg / 14.3 gal

.....(hybrid) unl reg / 13.7 gal

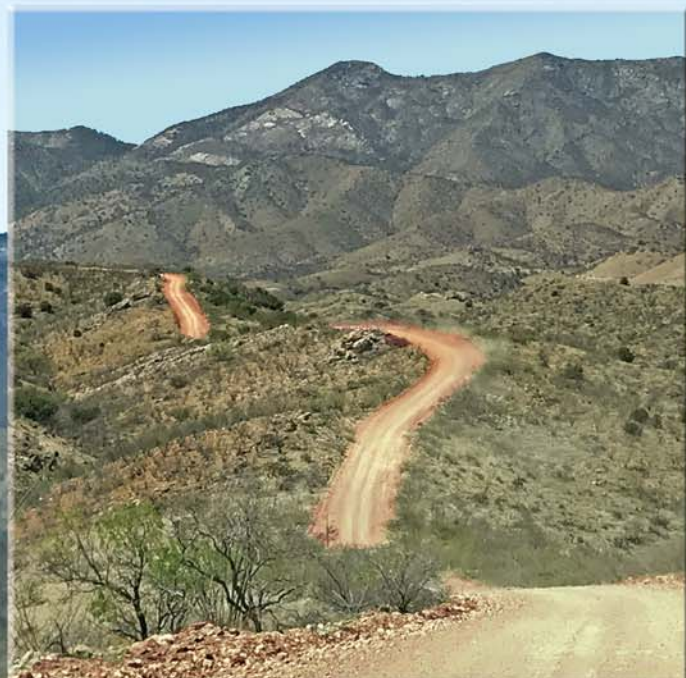
.....(PHEV) unl reg / 11.1 gal

our market, with a finger right on the pulse of American consumer tastes.

A decade or so back, Hyundai broke dramatic new ground with complex swooping, scalloped body surfaces, promptly influencing the industry as a whole. The 2022 Tucson's styling is every bit as dramatic, while heading in new directions with more straight-line 3D effects they call Parametric Dynamics, or we might (to blend cultures) call "origami meets Buckminster Fuller." This carries through every detail, with deep geometry present in every element of the grille, wheels, lighting, subset elements of lighting, and more. Headlights do an especially neat trick, doing double duty as elements of the 3D grille, disappearing when turned off, with a related disappearing act in the taillights. You will find plenty here to keep your eyeballs enthralled for a long time to come.

THE BUILD: The gen-four Hyundai Tucson's all-new platform has been engineered from the ground up with a longer wheelbase for North America and shorter overhangs, creating more occupant and cargo volume, while also optimizing space to accommodate any of the above powertrains, as well as a slated full battery-only EV version—and a fuel cell EV (FCEV) version, a powertrain oft-discussed by many, but which Hyundai has been one of the few to conquer.

Body structure continues to improve dramatically over the generations, with the new model boasting significant increases (and competitive advantages) in body rigidity for handling; noise, vibration and harshness for ride comfort (with improvements in everything from isolation and insulation, to windshield acoustics, wheel liners, even mirror gaps); and collision protection.



Hyundai HTRAC all-wheel drive is an option on every ICE trim level and is the exclusive solution on HEV and upcoming PHEV models. Its sophisticated system of sensors instantly and constantly reads speed at all four wheels, accelerator action and steering angle, involving four-wheel drive coupling from the engine, plus ABS/ESC (anti-lock brakes, electronic stability control) systems for optimized real-time active drive distribution back to each wheel.

Hyundai Tucson N Line sits roughly at the same level as next-to-top-trim SEL Premium (with Limited the top model), noted mostly for its sporty appearance upgrades (evocative of a full N performance model, an available build of Veloster but not Tucson at this point), notably trim details, sport seats, metal pedals and (non-performance-related but appropriate) Bose premium audio.

OUR DRIVE: This was our first new vehicle launch drive program since before the pandemic (we've had a couple of press group comparos in between). A fly-in event for most, it was befittingly based in Tucson, so we drove over.

The launch drive itself was a gem, inevitably including a bit of urban and suburban multi-lane traffic—a chance to experience its controls and safety and assist features—small towns and rural two-lanes including significant hills and twisties, and an exemplary 27-mile off-pavement stretch to show off its handling and control tech, as well as its weekend getaway chops. We drove the top ICE version first, a Limited AWD, then the HEV on the way back.

Notable in town was a long run of very rough pavement, more patches than surface, the kind where anybody would change lanes, but we stuck with it to see how the vehicle did—which was very well, a nice solid ride that transmitted conditions but not abuse, like a subtle massage. Impressive. Drive modes on this model included normal, sport, smart and snow—we settled into sport.

From six lanes down to four down to two and through a few small towns, we rolled into the foothills on Mt Lemmon's northern flanks. We were now in a bit of a train with several others, so we pulled off and let them get ahead, then opened it up. Through sweeping curves, tight turns and elevation changes, the powertrain was generally responsive, suspension and handling all the moreso, a very sporting drive from any vehicle, much less a compact utility.

We caught up with the group at a snack break station, where our gravel road drive would begin. We can see why they included such a significant stretch of dirt—about an hour or more—as the new Tucson has a great deal to show off here. While well maintained overall, the road offers plenty of opportunity to skitter or hop, or even to slide right off a cliff here and there, but the Tucson would have none of that, always ruggedly sure-footed, firm and holding tight. The HTRAC system can be kept very busy on a road like this, though its operation is totally transparent most of the time. We had one extreme patch

where we noted that it never lost traction, but we were aware of its heroics as it apportioned grip, which was actually kind of neat (but which we suspect most people would never even notice).

This is a great drive—from east of San Manuel, off South Veterans Memorial Boulevard to Black Hills Mine Road, through Bonita Canyon onto East Rosendo Road, in our case ending up at Arizona Zipline Adventures. Terrain reminded us of Colorado's foothills one minute, inland Southern California the next, wide open rolling ranches of Texas yet another, and of course Arizona the rest. With constant changes of scenery, curvature, ascent/descent, and the occasional abrupt cattle guard or one-lane ravine crossing built in, it was very well chosen by the trip planners and engineers.

We thanked our state for letting this even be a public road. This is a route where you obviously need to stay on your toes and be aware of all your drivetrain conditions. All this variety of terrain showed off not only the all-wheel-drive and traction systems, but also gearing. With this in mind, we caught ourselves thinking a manual transmission would be desirable for some of it, so we'd be able to pop it into our specific preferences of fixed combinations and be certain where we stood. We quickly realized, however, that this hearty eight-speed transmission (in the ICE model; HEV has a six-speed) had been doing far more shifting than we'd really want to do for that long in a manual, constantly adjusting to wildly varying conditions—all very transparently, itself quite an achievement. Yes, we might enjoy the heck out of a manual here for awhile, but maybe not for 27 miles.

We easily could have caught air in many vehicles at a number of particularly rugged spots, including some that could send you skating or flying right off a cliff, but riding atop the HTRAC system, we never lost our four gripping feet.

The new Hyundai Tucson is one rugged little



rough road driver, and this was just the great little rugged rough road to prove it.

It'd be great to try that same road in the hybrid sometime, to compare powertrain elements, but after lunch at Arizona Zipline, we took a shorter route to the paved roads back, this time in the HEV. Functional differences are a lack of auto start-stop defeat and an eco drive mode in lieu of normal as on the ICE build. We popped it into eco, in line with the hybrid's core philosophies, and headed home without giving that another thought.

COMING ATTRACTIONS: It's a busy time for Hyundai, with twelve new or significantly enhanced utilities arriving through this year. (One is the Hyundai Santa Cruz, dubbed a Sport Adventure Vehicle, which we were the first to see while in Tucson—see next feature.)

You'll find the ICE and HEV versions of the 2022 Hyundai Tucson rolling into dealers now, with the N Line following closely and the PHEV arriving a bit after that. They will surely catch your eye. ■

