

HYBRID POWER SYSTEM	
Hybrid System Net Horsepower	270 horsepower (201 kw)
ENGINE	
Type, Materials	V6 aluminum block and heads DOHC 24-valve with VVT-i
Valvetrain	DOHC, 4-valve/cylinder
Displacement	3.3-liter
Bore x Stroke	3.62 x 3.27 in.
Compression Ratio	10.8:1
Horsepower (SAE Net)	209 hp (156 kW) @ 5,600 rpm
Torque	212 lb-ft @ 3,600 rpm
Maximum Engine Speed (redline)	5,600 RPM
Fuel System	Multi-Point Injection (MPI)
Recommended Fuel	87-octane unleaded (or higher)
Emission Certification	SULEV (California) Tier 2 – Bin 3 (all other states)
Evaporative Emission Certification	Zero evaporative
EPA Estimated Fuel Economy* (city/highway/combined MPG)	27/25/26
ELECTRIC MOTOR	
Motor Generator 1 (MG1)	
-Function	Generator, engine starter, transmission ratio control
- Type	Permanent magnet motor
- Max. Voltage	AC 650V
Motor Generator 2 (MG2)	7.0 0001
-Function	Drives front wheels, regeneration during braking
- Type	Permanent magnet motor
- Max. Voltage	AC 650V
- Max. Output	167 hp (123 kw) @ 4,500 rpm
- Max. Torque	247 lbft. @ 0-1,500 rpm
Motor Generator Rear (MGR)	
-Function	Drives rear wheels, regeneration during braking
- Type	Permanent magnet motor
- Max. Voltage	AC 650V
- Max. Output	68 hp (50 kw) @ 4,610 – 5,120 rpm
- Max. Torque	96 lbft. @ 0-610 rpm
HYBRID BATTERY PACK	
Туре	Sealed nickel metal hydride (Ni-MH)



HYBRID POWER SYSTEM – CONT.	
Nominal Voltage	288V
Maximum Power Output	45 kW

^{*2009} EPA MPG Estimates. Actual mileage will vary.

DRIVETRAIN	
Layout	4WD-i models equipped with front and rear electric drive motors
Transmission Type	Electronically controlled continuously variable transmission with planetary gear unit for gear reduction and power splitting; electronic all-wheel drive control system
Designation (Front/Rear)	P310/Q211
Differential Ratio (Front/Rear)	3.542/6.860

CHASSIS AND BODY		
Body/Frame		Unitized steel
Suspension	- Front	MacPherson strut, coil springs
	- Rear	Dual-link MacPherson strut, coil springs
Steering	- Туре	Electronic Power Steering (EPS): Rack and pinion with electronic power assist
	- Overall Ratio	15.6:1
	- Turns, Lock to Lock	3.1 turns
	 Turning Circle Diameter (curb to curb) 	39.0 ft.
Brakes	- Type	Electronically Controlled Brake system (ECB) with regenerative control and incorporating Anti-Lock Brakes (ABS), Electronic Brake force Distribution (EBD), Brake Assist and Vehicle Dynamics Integrated Management system (VDIM)
	- Front Type/Diameter	Ventilated Disc/ 12.9 in.
	- Rear Type/Diameter	Solid Disc / 12.2 in.
Anti-lock Brak	e System (ABS)	4 channel, 4 sensor
Wheel Size		7.5 X 17 inches aluminum alloy (Base)
		7.5 x 19 inches aluminum alloy (Limited)
Wheel Type and Material		Aluminum Alloy
Tire Size		P245/65 R17 (Base)
		P245/55 R19 (Limited)
Tire Type		All-season steel-belted radial
Spare Tire/Wheel		Full-size

EXTERIOR DIMENSIONS	
Wheelbase	109.8 in.
Overall Length	188.4 in.
Overall Width	75.2 in.
Overall Height	68.1 in. (without std. roof rails)
	69.3 in. (with std. roof rails)
Tread Width (Front/Rear)	64.0/64.0 in.
Ground Clearance	7.3 in.
Coefficient of Drag	0.34
Angle of Approach/Departure	29/24 degrees

INTERIOR DIMENSIONS			
Seating Capacity	5		
	7 (Limited)		
Headroom	w/out moonroof	with moonroof	
- First Row	40.6 in	39.7 in.	
- Second Row	39.8 in.	39.8 in.	
- Third Row	36.3 in.	36.3 in.	
Legroom			
- First Row	43.2 in.		
- Second Row	38.4 in.		
- Third Row	29.9 in.		
Shoulder Room			
- First Row	59.7 in.		
- Second Row	59.3 in.		
- Third Row	55.0 in.		
Hip Room			
- First Row	56.7 in.		
- Second Row	56.3 in.		
- Third Row	42.3 in.		
EPA Interior Volume	155.7 cu. ft.		
EPA Passenger Volume	145.4 cu. ft.		
EPA Cargo Volume			
Behind 1 st row seat	94.1 cu. ft.		
Behind 2 nd row seat	42.3 cu. ft.		
Behind 3 rd row seat	10.3 cu. ft.		
EPA Class	Mid-size SUV		



WEIGHTS AND CAPACITIES	
Curb Weight	4,508 lbs. (Base) 4,641 lbs. (Limited)
GVWR	5,935 lbs. (Base)
	6,000 lbs. (Limited)
Payload	1,427 lbs. (Base)
	1,359 lbs (Limited)
Maximum Towing Weight	3,500 lbs.
Maximum Tongue Weight	350 lbs.
Fuel Capacity	17.2 gal.

STANDARD EXTERIOR FEATURES

Highlander Hybrid Base

- 17-inch six spoke alloy wheels with 245/65 R17 tires with full-size spare on 17-inch alloy wheel
- Color-keyed bumpers, and foldable power heated remote outside mirrors
- Chrome outside door handles
- Front grille w/chrome surround and silver painted fins
- Blue tinted headlight and taillight lenses
- Halogen headlamps with auto-off feature
- Black fog lamp covers
- Silver painted lower bumper cover
- Black rear step bumper cover
- Chrome surround and light silver painted rear license plate garnish
- In-glass antenna on rear quarter panel window
- HSD badging on right rear lift gate and front doors
- Rear spoiler with LED stop lamp
- Rear window with electric defogger and intermittent wiper
- Halogen headlamps with auto-off feature
- UV reduction glass windshield
- Privacy glass on rear side, quarter and tailgate windows
- Washer-linked variable intermittent windshield wipers

Highlander Hybrid Limited (In addition to or replaces standard features on Highlander Hybrid Base model)

- 19-inch ten spoke alloy wheels with silver painted finish, 245/55 R19 tires, and full-size spare
- Silver painted roof rails
- Rear glass hatch
- Integrated fog lamps
- Door scuff plate with Highlander logo

STANDARD INTERIOR FEATURES

Highlander Hybrid Base

- Multi-function display (3.5-inch display) includes back-up monitor, clock, outside temperature, cruise information (avg. fuel economy, avg. speed, distance to empty, current fuel economy, and trip timer), and tire pressure display
- Defroster-linked CFC-free front air conditioning
- Silver and birch wood-grain-style interior trim with chrome door handle accents
- Birch wood grain style trim door grips
- Up to 5 passenger seating capacity
- Upgraded fabric-trimmed eight-way manually adjustable driver's seat and four-way passenger fabric seat w/two-way adjustable headrests
- Upgraded fabric-trimmed 40/20/40 2nd row seat w/armrests on outboard seats, fold flat, recline, fore and aft slide adjustment, one touch right-hand walk-in function plus Center Stow™ seat, and Center Stow™ console
- Optitron meters w/blue graphics
- Power meter with hybrid system indicator
- Auto door locks with shifter activation
- Urethane steering wheel with audio and multi-information display control
- Power door locks and windows with driver's auto up/down jam protection
- **Smart Entry System**
- Dual sun visors with vanity mirrors and sliding extensions
- Overhead console with conversation mirror, map lights and holder for sunglasses
- LED illumination of center console
- Illuminated entry system includes interior lights
- Remote hood and fuel-filler door releases
- Two front and one cargo area 12-volt auxiliary power outlets
- Cargo area tie down hooks
- Six assist grips
- Two carpeted under floor storage areas in rear cargo area

Highlander Hybrid Limited (In addition to or replaces standard features on Highlander Hybrid Base model)

- Power rear door
- Up to seven passenger seating capacity
- Upgrade fabric trimmed eight-way power adjustable driver's and four-way manual adjustable passenger seat w/two-way adjustable headrest
- Upgrade fabric trimmed 40/20/40 2nd row seat w/armrests on outboard seats, fold flat, recline, fore and aft adjustment, one- touch right-hand walk-in function, plus Center Stow™ seat, and Center Stow™ console
- Upgrade fabric trimmed 3rd row seat with fold down headrests and fold-flat-into-floor capability, two cup holders
- Leather-wrapped steering wheel w/ silver accents, audio, and multi-function display controls
- Shift knob with birch wood grain style insert
- Dual sun visors with illuminated vanity mirrors and sliding extensions



STANDARD INTERIOR FEATURES - CONT.

- 2nd row passenger reading lamps
- Tonneau cover
- Cargo area second-row seat one-touch fold-flat lever

STANDARD AUDIO SYSTEM

- Deluxe 3-in-1 AM/FM/CD with six speakers and MP3/WMA playback capability
- Auxiliary audio jack
- AM/FM/six-disc in-dash CD changer w/six-speakers and MP3/WMA playback capability, and satellite radio ready (Limited)

STANDARD SAFETY AND SECURITY

- Driver and front passenger advanced airbags with occupant classification sensor
- Driver and front passenger seat-mounted side airbags: three-row roll-sensing side curtain airbags.
- Driver's knee airbag
- Three-point seatbelts for all seating positions; Emergency Locking Retractors (ELR) on driver's belt; Automatic/Emergency Locking Retractors (ALR/ELR) on all passenger seatbelts; three-point front seatbelts with adjustable shoulder anchors
- Driver and front passenger active head rests
- STAR Safety System® with Vehicle Dynamics Integrated Management (VDIM) which integrates Antilock Brake System (ABS) with Brake Assist (BA) and Electronic Brake-force Distribution (EBD) and Vehicle Stability Control (VSC) with Traction Control (TRAC)
- Child seat top (ISOFIX CRS) tether anchor brackets located behind the 2nd row for all seating positions
- Child seat lower (ISOFIX CRS) anchor brackets located in the lower portion of the 2nd row seat backs in outboard seating positions
- Pretensioners and force limiters on driver and front passenger seatbelts
- Head impact protection structure (A & B pillar trim panels)
- Direct type Tire Pressure Monitoring System (TPMS)
- Side impact door beams
- Hill-start Assist Control
- Back-up camera
- Daytime running lights and auto on/off light control system (Limited)

STANDARD MECHANICAL FEATURES

- **ECON** mode
- EV mode



FACTORY OPTIONS

Highlander Hybrid Base 4WD-i

- <u>Popular package</u> includes fabric trimmed 3rd row seat,19-inch ten-spoke alloy wheels with P245/55R19 tires, sport style spoiler with LED stop lamp, puddle lamps, leather trimmed steering wheel and shift knob, two personal lamps in 2nd row, driver and front passenger sun visor with lamps, eight- way power driver seat, silver painted roof rails, and cargo area 2nd row one-touch fold down levers
- <u>Popular package plus</u> includes all items in popular package plus tonneau cover, power rear door, AM/FM/six-disc CD changer, MP3/WMA playback capability, satellite radio ready with six speakers, HomeLink[®] and rear glass hatch
- Anti-theft alarm system with engine immobilizer
- Front auto dual zone climate control system (includes steering wheel Controls)
- Manual rear air conditioning system with in headliner rear vents for 2nd and 3rd rows
- Auto rear air conditioning system with in headliner rear vents for 2nd and 3rd rows
- Tonneau cover

Highlander Hybrid Limited 4WD-i

- <u>Luxury package</u> includes four-way power passenger seat, inside chrome door handles, auto dimming mirror with compass, leather trimmed seats, driver seat bottom cushion extension and multi-stage heated front seats
- JBL AM/FM six-disc in-dash CD changer with hands-free phone capability via Bluetooth® wireless technology, satellite radio capability, MP3/WMA playback capability and nine speakers in seven locations including subwoofer
- DVD rear-seat entertainment system includes: nine-inch LCD screen, DVD player, and two wireless headphones, 115V outlet and RCA jacks
- Navigation system with Bluetooth[®] voice-activation and JBL AM/FM/four-disc in-dash CD changer with hands-free phone capability via Bluetooth[®] wireless technology, satellite radio ready, MP3/WMA playback capability and nine speakers in seven locations including sub-woofer
- Anti-theft alarm system with engine immobilizer
- Front auto dual zone climate control system (includes steering wheel controls)
- Manual rear air conditioning system with rear vents for 2nd and 3rd rows
- Auto rear air conditioning system with rear vents for 2nd and 3rd rows
- Power tilt/slide moonroof with sunshade

AVAILABLE EXTERIOR COLORS

- Classic Silver Metallic
- Blizzard Pearl
- Black
- Cypress Pearl
- Wave Line Pearl
- Iced Amethyst Mica

BASIC LIMITED WARRANTY COVERAGE

- 3-year/36,000-mile Comprehensive
- 5-year/60,000-mile Powertrain
- 5-year/unlimited-mileage Corrosion Perforation
- 8-year/100,000-mile Hybrid-related Component Coverage