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PRODUCT INFORMATION Series II Captiva

Models

- Captiva 5 Compact SUV
- Captiva 7 SX/CX/LX Medium SUV

Dimensions

	Captiva 7 SX/CX/LX	Captiva 5
Length (mm)	4673	4596
Width (mm) – no mirrors	1849	1850
Height (mm) – no roof rails	1727	1717
Wheelbase (mm)	2707	2707
Front/Rear Track (mm)	1569/1576	1569/1576
Ground clearance (mm)	200	200
Front/Rear Leg room (mm)	1036/946	1036/939
Front/Rear Shoulder room (mm)	1455/1455	1424/1422
Front/Rear Head room (mm)	1026/1017	1026/1003
Front/Rear Hip room (mm)	1349/1357	1338/1344
Cargo Volume (litres)		
- All seats upright	85	430
- 3 rd row seats folded	465	-
- All rear seats folded	930	865
- Front pass. & all rear seats folded	1565	-

Engines

- 2.4 litre 4-cylinder DOHC petrol engine
 - Power: 123kW @ 5600rpm
 - Torque: 230Nm @ 4600rpm
- 3.0 litre V6 SIDI petrol engine
 - Power: 190kW @ 6900rpm
 - Torque: 288Nm @ 5800rpm
- 2.2 litre 4-cylinder turbo diesel engine
 - Power: 135kW @ 3800rpm
 - Torque: 400Nm @ 2000rpm

Transmissions

- 6-speed automatic transmission (standard on Captiva 7 SX/CX/LX)
- 6-speed manual transmission (standard on Captiva 5)

Series II Captiva – Fuel Economy

Vehicle	Engine	Transmission	Combined Fuel Consumption (l/100km)		
			MY10	Series II	Improvement
Captiva 7 SX (2WD)	2.4L 4-CYL	Auto	N/A	9.1	N/A
Captiva 7 SX (2WD)	2.2L Diesel	Auto	8.5	8.1	5%
Captiva 7 CX (AWD)	3.0L SIDI V6	Auto	11.7	11.3	3%
Captiva 7 CX (AWD)	2.2L Diesel	Auto	8.8	8.3	6%
Captiva 7 LX (AWD)	3.0L SIDI V6	Auto	11.7	11.3	3%
Captiva 7 LX (AWD)	2.2L Diesel	Auto	8.8	8.3	6%
Captiva 5 (2WD)	2.4L 4-CYL	Manual	9.7	9.1	6%
Captiva 5 (2WD)	2.4L 4-CYL	Auto	N/A	9.1	N/A
Captiva 5 (AWD)	2.2L Diesel	Auto	N/A	8.5	N/A

Series II Captiva – CO2 Emissions

Vehicle	Engine	Transmission	CO2 Emissions (g/km)		
			MY10	Series II	Improvement
Captiva 7 SX (2WD)	2.4L 4-CYL	Auto	N/A	217	N/A
Captiva 7 SX (2WD)	2.2L Diesel	Auto	224	213	5%
Captiva 7 CX (AWD)	3.0L SIDI V6	Auto	279	268	4%
Captiva 7 CX (AWD)	2.2L Diesel	Auto	233	220	6%
Captiva 7 LX (AWD)	3.0L SIDI V6	Auto	279	268	4%
Captiva 7 LX (AWD)	2.2L Diesel	Auto	233	220	6%
Captiva 5 (2WD)	2.4L 4-CYL	Manual	231	217	6%
Captiva 5 (2WD)	2.4L 4-CYL	Auto	N/A	216	N/A
Captiva 5 (AWD)	2.2L Diesel	Auto	N/A	224	N/A

Technical Data Overview

2.4 litre DOHC 16-VALVE 4 cylinder petrol engine; 3.0 liter SIDI V6 petrol engine; and 2.2 liter turbocharged diesel engine with common rail injection technology	
Availability	2.4L 4-cylinder – standard on Captiva 5, Captiva 7 SX 3.0L SIDI V6 – standard on Captiva 7 CX/LX 2.2 Turbo Diesel – optional on Captiva 5, Captiva 7 SX/CX/LX
Valvetrain	2.4L 4-cylinder – Overhead camshafts, four-valves per cylinder, continuous cam phaser intake and exhaust 3.0L SIDI V6 – Overhead camshafts, four-valves per cylinder 2.2 Turbo Diesel – Overhead camshafts, four-valves per cylinder
Fuel Delivery	2.4L 4-cyl – Sequential fuel injection 3.0L SIDI – High-pressure direct injection 2.2 Turbo Diesel – Common rail high-pressure injection
Displacement	2.4L 4-cylinder – 2384cc 3.0L SIDI – 2997cc 2.2 Turbo Diesel – 2231 cc
Compression Ratio	2.4L 4-cylinder – 10.4:1 3.0L SIDI V6 – 11.7:1 2.2 Turbo Diesel – 16.3 :1
Drive axle	Front wheel drive/All wheel drive
Turning circle	11.87 metres
Fuel tank capacity	65 litres
Front suspension	McPherson strut
Rear suspension	Independent Four-link
Steering	Hydraulic power steering
Brakes	Front and rear ventilated discs Front diameter:296mm, Rear diameter: 303mm
Towing	2.4L 4-cylinder – 750kg unbraked, 1500kg braked 3.0L SIDI V6 – 750kg unbraked, 1700kg braked 2.2 Turbo Diesel – 750kg unbraked, 1700kg braked

3.0L SIDI V6 Engine

The SIDI V6 applies highly developed engine technologies.

Advanced multi-outlet fuel injectors for direct combustion chamber fuel injection:

- Fuel is injected directly into the combustion chamber during the intake stroke, at which time only air flows through the intake system and into the combustion chamber when the intake valve opens.
- During compression stroke, the fuel and air mixture now in the combustion chamber is ignited by the spark plug. As the fuel vaporizes in the cylinder, the air and fuel mixture is cooled.

- This enables the use of a higher compression ratio in the combustion chamber, which improves engine performance and efficiency.
- The special injectors that inject fuel directly into the combustion chamber are located beneath the intake ports, which transfer only air. Because the ports are not used to mix the fuel and air, efficiency of the air flow is increased.
- The accuracy in which the fuel can be injected through special direct injectors is greater, resulting in better fuel consumption at all throttle openings and better mixture control which allows higher compression.

High pressure engine-driven fuel pump for multiple injection events:

- To overcome higher pressures inside the combustion chamber and to supply the multiple injection points of the direct injection nozzles, an engine-driven high pressure pump supplies fuel to the injectors.
- This high pressure pump feeds a high strength fuel rail that in turn feeds a continuously variable pressure fuel rail attached to the injectors.
- The fuel pump pressures are controlled between 2 and 15MPa, based on operating conditions. For example, at idle the fuel system is regulated to about 508 psi (35 bar) and increases with demand.

Cam phasing coupled with direct injection further reducing exhaust emissions:

- Cam phasing pays big dividends in reducing exhaust emissions by optimising exhaust valve overlap and eliminating the need for a separate exhaust gas recirculation (EGR) system.
- By closing the exhaust valves late at appropriate times, the cam phasers allow the engine to draw the desired amount of exhaust gas back into the combustion chamber, reducing unburned hydrocarbon emissions.
- The return of exhaust gases also decreases peak temperatures and contributes to the reduction of oxides of nitrogen (NOx) emissions.

2.2L DOHC Turbo Diesel Engine

The new 2.2-liter turbo diesel engine features advanced technologies that include:

- An advanced, electronically controlled turbocharger with intercooler that enables improved drivability, fuel economy and lower emissions. The vanes within the variable geometry turbocharger (VGT) are continuously varied for optimal air flow control, and a rotary actuator ensures fast response and preciseness
- A common-rail, high-pressure (1800 bar) solenoid fuel injection system for precise injection control and consistent optimal fuel burn within the engine cylinder. The common rail system delivers improved multiple injection performance and optimized injection quality within the combustion chamber that ensures excellent combustion audibility (NVH), fuel economy and reduced emissions

- A new DOHC cylinder head design for increased air flow and variable swirl. The result is improved durability, enhanced performance, low emissions, and reduced diesel particulates
- A chain-timed camshaft drive that enables more accurate timing and improved durability. The drive that incorporates a hydraulic tensioner to ensure optimal tension in all scenarios, contributes to improved valve timing accuracy, a maintenance-free design, and improved noise/vibration performance
- A high-efficiency exhaust gas recirculation cooler for lower emissions and improved engine robustness
- A close-coupled diesel particulate filter (DPF) for improved recirculation into the burn cycle. The DPF system is maintenance free for the life of the vehicle and meets all Euro-5 emissions regulations
- An improved block structure, a stiffer polyurethane foam oil pan, and a balance shaft module integrated into the oil sump of the engine, for improved NVH characteristics

2.4L 4-cylinder DOHC petrol engine

The economical four-cylinder engine features numerous technological highlights that include:

- An optimized piston skirt to reduce operational noise
- Lost foam aluminium engine block and cylinder head for lighter weight construction (a contributor to fuel efficiency) and enhanced NVH characteristics
- Cam phasers for both intake and exhaust valves (variable valve timing). Each camshaft is equipped with a cam position sensor so the ECM can accurately phase the camshafts
- Digital sensors (crank sensor, cam sensor, etc.), rather than analogue, provide greater precision, accuracy and speed from sensor to processor, resulting in cleaner in-cylinder burning of air/fuel mixture, better information processing and more efficient operation
- Oil-cooling jets to ensure optimal piston cooling. Located at the bottom of the piston bore in the crankcase, the system squirts oil into the underside of the bores to ensure cooling, lubrication, and enhanced long-term durability

6-Speed Hydra-Matic Automatic Transmission

The new upgraded engines are mated with a new, advanced six-speed automatic transmission - Hydra-Matic 6T40 or 6T45 for diesel models.

Thanks to a wide overall ratio spread of 6.14:1, first gear is a very high ratio, which provides brisk acceleration from a stop. Sixth gear, however, is an overdrive ratio, which keeps the engine revolutions as low as possible for highway cruising, reducing engine friction losses and improving fuel economy.

Sophisticated electronics help enable the precision needed to time the clutches for each shift. The first-to-second gear shift uses a freewheeling mechanism, which tends to be smoother during shifts between gears with large ratio differences, such as first and second gears.

The single-plate lockup clutch makes use of GM's electronic controlled capacity clutch (ECCC) technology to help dampen engine vibrations and ensure smooth operation.

Premium transmission fluid is validated to improve durability and shift stability over the life of the transmission.

Specifications	Hydra-Matic 6T40/6T45 Automatic Transmission
Type:	Six-speed transverse, electronically controlled, automatic overdrive transmission
Gear Ratios (:1):	
First	4.58
Second	2.96
Third	1.91
Fourth	1.45
Fifth	1.00
Sixth	0.75
Final drive ratio	3.53 (2.4L 4-cylinder) 3.23 (3.0L SIDI V6) 2.89 (2.2 Turbo Diesel)
Case material:	Die-cast aluminium
Shift pattern:	6 variable bleed solenoids
Torque Converter Clutch:	ECCC
Converter Size (mm):	236
Fluid Type:	DEXRON® VI
Fluid Capacity (kg):	6.8
Weight (kg)	81 (wet)

6-Speed Manual Transmission

The new Captiva 5 comes standard with the F40 six-speed manual transmission.

All gears are synchronized, including reverse. Triple cone synchronizers are used for first and second gears; double cone synchronizers for third and fourth gears; and single cone synchronizers are used in fifth and sixth gears. A dual cone synchronizer is used for the reverse gear. As a result, the F40 manual delivers smooth, quick gear engagement in virtually all shifting scenarios regardless of speed or launch characteristics

Each synchronizer cone angle and lining material is optimized to ensure exceptional shifting qualities and NVH characteristics.

“Monoblock” precision forged gears (first, second, third, fourth and reverse) ensure outstanding durability, and contribute to exceptional NVH characteristics and smooth shift throws.

Specifications	F40 Manual Transmission
Type:	Fully synchronized 6-speed manual with single overdrive
Gear Ratios (:1):	
First	4.17
Second	2.19
Third	1.48
Fourth	1.15
Fifth	0.92
Sixth	0.74
Final drive ratio	4.18 (2.4L 4-cylinder)

All-Wheel-Drive system

The AWD system provides instant traction as needed. As soon as the system identifies a situation where driving four wheels would be better than two, it brings the rear wheels into play via an electronically controlled clutch to ensure optimum traction.

During normal driving, propulsion forces are distributed between the front and rear wheels in a ratio of 100:0 and the Captiva acts as a conventional front-wheel-drive vehicle with the clutch to the rear axle opened.

But if the system identifies the need to intervene – when making a hill start, negotiating tight curves or slippery surfaces, for example – it will redistribute torque between the front and rear axles within 100 milliseconds. Any power ratios between 100:00 and 50:50 are possible.

Key elements of Captiva’s intelligent Torque Controlled Coupling all-wheel-drive system are the two clutches – one an electromagnetic pilot clutch and the other a hydraulic multi-disc wet clutch. They are electronically controlled and vary the distribution of propulsion force between the front and rear axles.

Electronic Stability Control

The ESC helps prevent the vehicle from skidding during emergency manoeuvres by specifically slowing down individual wheels. At the same time, with aid of numerous sensor data such as the position of the accelerator pedal, steering and yaw angle, it consistently compares the driver's actions with the actual driving situation. If it detects a critical deviation, the system intervenes.

The ESC incorporates a number of safety functions that include:

- Anti-lock Braking System (ABS)
- Traction Control System (TCS)
- Electronic Brakeforce Distribution
- **Hydraulic Brake Assist:**
The system recognizes emergency braking manoeuvres by the speed at which the driver steps on the brake pedal. The booster pressure is increased rapidly to the maximum the system can provide to keep stopping distances as short as possible. It also enhances pedal feel.
- **Active Rollover Protection (ARP):**
ARP detects at an early stage the possible threat of the vehicle turning over. For example, if the system recognises a hasty steering movement and body roll that is typical of an obstacle avoidance manoeuvre, it reduces the side force by slowing down the front wheel on the outside of the curve to reduce lateral acceleration and cut the speed. In this way, it helps interrupt the rollover before it occurs.

Descent Control System

On steep gradients the system can be activated at the press of a button to automatically slow the vehicle without the driver needing to apply hard brake pressure. It assists the driver to concentrate primarily on steering.

Hill Start Assist

Hill Start Assist prevents the vehicle unintentionally rolling backwards or forwards down a slope. Engaging automatically on gradients of 4% or more, it keeps the vehicle stationary after the brake is released, giving the driver time to use the accelerator to pull away.

Level Ride Suspension

Level ride suspension is a safety and comfort feature that automatically adjusts the suspension level to help maintain the vehicle's nominal ride height when loaded.

On the rear wheels, conventional absorbers are replaced by a compact self levelling shock absorber. All elements such as the oil reservoir, pressure accumulator, pump, height sensor,

control mechanism, and the damping unit of the self-pumping, hydropneumatic levelling system are completely integrated into the damper.

When a load is placed in the rear of the vehicle, the suspension is lifted upward to its previous unloaded level as the vehicle is driven. Depending on road conditions, the fully loaded vehicle attains its nominal ride height after only a few hundred meters.

Safety and Convenience Upgrades

On top of new powertrain, Captiva Series II has new and upgraded safety and convenience features such as standard side impact airbags, Bluetooth connectivity and an electric park brake.

All models of Captiva Series II offer an impressive level of standard features that include:

- Six airbags (driver, front passenger, front side and curtain)
- Electronic Stability Control (ESC)
- Traction Control System (TCS)
- Anti-lock Braking System (ABS)
- Electronic Brakeforce Distribution (EBD)
- Hydraulic Brake Assist (HBA)
- Active Rollover Protection (ARP)
- Descent Control System (DCS)
- Hill Start Assist
- Level ride suspension
- Air conditioning
- Cruise control
- Electric park brake
- Bluetooth connectivity
- Leather wrap steering wheel
- Three CRA points in second row seats
- 17-inch alloy wheels

Depending on a model, additional standard features are offered such as:

- Six-disc CD player, front fog lamps (Captiva 7 CX/LX, Captiva 5)
- Rear park assist (Captiva 7 CX/LX)
- Front and rear park assist (Captiva 5)
- 18-inch alloy wheels, Sportec seat trim (Captiva 7 CX)
- 19-inch alloy wheels, leather seat trim, rear view camera, 7-inch multi-function touch-screen, satellite navigation (Captiva 7 LX)

Wheels and Tyres

- Captiva 5 has 17 x 7 inch alloy wheels and 235/65 R17 tyres
- Captiva 7 SX has 17 x 7 inch alloy wheels and 235/60 R17 tyres
- Captiva 7 CX has 18 x 7 inch alloy wheels and 235/55 R18 tyres

- Captiva 7 LX has 19 x 7 inch alloy wheels and 235/50 R19 tyres
- Spare: 16 x 6.5 inch steel wheel and 215/70 R16 tyre

Off road

- The approach angle for Captiva 7 SX/CX/LX models is 24.4 degrees. For Captiva 5, it is 24.2 degrees
- The departure angle for Captiva 7 SX/CX/LX models is 22.2 degrees. For Captiva 5, it is 23.3 degrees
- The breakover angle for all models is 17.8 degrees

Servicing

Series II Captiva servicing is at 3000km (no cost inspection), 15,000km then every 15,000km or 12 months, whichever comes first.

Place of Manufacture

GM Korea, Bupyeong, South Korea