



## PRODUCT INFORMATION

### ALL-NEW TOYOTA INNOVA ZENIX

The all-new Toyota Innova Zenix elevates the popular Innova range that was originally one of the products developed under the Innovative International Multi-Purpose Vehicle (IMV) program. The program has been a great success for Toyota in establishing complete development and production bases outside Japan.

The success is now shown in the development of the all-new Zenix as a totally new crossover model that has evolved from the original concept. In line with Toyota's aim of producing ever better cars, the all-new Zenix takes into account the needs of a new generation of customers, in particular the Millennials. These have families with grown-up children and require a spacious and comfortable crossover vehicle as a supplement to their other cars at home. They also expect a more premium product which has the qualities of a Toyota that have built its reputation for many decades.

In order to meet this new range of requirements, the designers departed from the previous IMV approach taken for the Innova and have come up with an entirely new model which continues to be part of the Innova family but with the all-new 'Zenix' to distinguish it as the flagship model.

It will be available in two versions – Innova Zenix 2.0 V (8-seater) with a 2-litre Dynamic Force petrol engine and CVT, and Innova Zenix 2.0 HEV (7-seater) with a Toyota Hybrid Electric Vehicle (HEV) drivetrain.

The availability of two different powertrains – HEV and Internal Combustion Engine (ICE) – in the same model follows Toyota multipath approach to give customers choices and not leave any customer behind while pursuing the goal of carbon neutrality.

For those who require the load-carrying capabilities and more functional attributes, UMW Toyota Motor will continue to offer the Innova 2.0X and 2.0G (referred to as Innova CG) currently assembled in Malaysia.

### EXTERIOR DESIGN

In line with the shift from traditional MPV to dynamic crossover, the exterior design of the all-new Zenix used the theme of 'Premium & Tough'. With this theme, the designers have given the model an impressive strong crossover silhouette balanced with a dynamic, attractive style.

The all-new Zenix is more spacious although its dimensions are not much different from the Innova CG, with 20 mm more length and 15 mm more width, 100 mm extra length in the wheelbase, and a similar overall height.

However, the appearance is significantly different and has a more premium image. For instance, the trapezium radiator grille is composed of hexagonal pieces which gradually change from top to bottom, creating a mesh-like pattern that 'opens up' at the lower portion. In addition, the lower half of the radiator grille frame is plated.

The LED headlamps and radiator grill form a centre core structure which is flanked by the side pontoons that create a wide feeling and emphasize the central extrusion. At each corner, 18-inch alloy wheels with 225/50 tyres are fitted.

At the rear, the core structure seamlessly connects to the fender and is supported by the undercarriage structure to create a sense of power and stability. The centre of the rear door garnish rises up towards the window, creating a trapezoidal graphic for a powerful stance. LEDs are used for the main lighting units at the rear except for the turn signals and reversing lights.

The all-new Zenix is available with a choice of 5 exterior body colours: Metallic Gray, Attitude Black (with mica finish), Avantgarde Bronze, Silver and Platinum White Pearl. Additionally, for fleet customers, there is Super White, a solid finish which gives a clean appearance and is suitable for branding to be added.

## **INTERIOR DESIGN & FEATURES**

The more premium positioning of the all-new Zenix is immediately evident upon entering the expansive cabin with soft high-quality materials used on the dashboard and other areas. The seats have a premium design with artificial black leather upholstery that is contrasted by the illumination on the ceiling.

The all-new Zenix HEV comes with Captain Seats in the centre row which are equipped with side tables. The two seats are positioned on either side with a walk-through space to the rear. This version also comes with a standard Panoramic Sunroof for an added touch of luxury.

For the all-new Zenix 2.0 V, the centre row has space for 3 persons and is divided 60:40 and can be folded down as well as slide forward for easier access to the third row which is divided 50:50 to give variability in cabin layout.

The all-new Zenix dashboard features a 10.1-inch Capacitive Touch Screen panel in the middle for display of information as well as management of the audio system. The same display is also used to display imagery from the Panoramic View Monitor. Connectivity options include wired and wireless options for Apple CarPlay & Android Auto (with compatible smartphone and software) as well as USB & Bluetooth.

The instrument panel has large and clear meters with a 7-inch Full-Colour Multi Information Display (MID). The MID shows information on the vehicle's operation including real-time and average fuel consumption which can help the driver to operate more efficiently. It will also show warnings of speed limits with the Road Sign Alert system.

Both versions of the all-new Zenix have Automatic Air-Conditioning for maintaining the desired temperature throughout cabin. Rear passengers are also able to regulate the blower volume on a panel behind the centre console box and can set the operation to automatic.

With passengers carrying many personal electronic devices that may require recharging on long journeys, charging points are a necessity. The all-new Zenix comes with USB ports as well as two 12V sockets (one at the rear), along with numerous cupholders for every occupant.

In the Innova CG, the cargo area is expanded by folding the third-row seats to the sides but for the all-new Zenix, the cargo area is expanded by folding down one or both backrests on the third row.

Despite the minimal increase in body width, the interior width is 550 mm greater while the floor length is extended by 86 mm. For ease of loading, operation of the rear door is powered.

### **BODY STRUCTURE/CHASSIS**

In its architecture, the all-new Zenix makes a major change from the chassis frame construction that has been used since the first generation was launched in 2005. As with many of the latest Toyota models, the all-new Zenix uses Toyota New Global Architecture (TNGA) which is very versatile and adopted for many different types of models, including HEVs.

While having common elements to reduce cost, the variability of the architecture also allows engineers to have flexibility to differentiate models by incorporating specific features. Benefits include greater rigidity, better agility and improved ride comfort while, at the same time, a lower centre of gravity can be achieved to improve stability.

TNGA also helps improve overall acceleration and fuel efficiency as the architecture is weight-optimised. Up to 170 kgs is saved when compared to the Innova CG and with the additional enhancement of weight-to-power ratio of the HEV, there is even better fuel efficiency.

For the all-new Zenix, the monocoque construction (like a passenger car's) also provides a more spacious interior with a flat floor for added comfort. The new structure allows the overhangs to be shortened (front: by 55 mm, rear: by 25 mm) to give the same approach and departure angles as the Innova CG model, while maintaining the generous ground clearance of 185 mm. The turning radius of 5.67 metres also helps with manoeuvrability in congested traffic conditions.

The suspension of the all-new Zenix is also similar to a front-wheel drive passenger car with Macpherson struts in front and a torsion beam at the rear. Together with TNGA, this means better ride comfort on all road surfaces. Being developed in the ASEAN region means that the all-new Zenix suspension is more effectively tuned to specific local conditions which include rough kampung roads as well as smooth highways.

## POWERTRAIN

Besides the switch to TNGA, the all-new Zenix also has new powertrains which are a major change from previous generations of the Innova. The new powertrains have transversely-mounted engines and drive is to the front wheels instead of the rear wheels.

Both Dynamic Force powertrains use the Toyota M20A 2-litre 4-cylinder 16-valve DOHC engine, with the all-new Zenix 2.0 HEV having a 5<sup>th</sup> generation Hybrid Electric powertrain with a Permanent Magnet Synchronous Motor working together with the petrol engine. The engine for the all-new Zenix 2.0 HEV has enhanced fuel efficiency with D4-S (Direct & Port Injection), Atkinson Cycle to extract more energy from the fuel, and 41% thermal efficiency which is top-class.

Energy to power the motor is supplied by a 6.5 Ahr nickel-metal hydride (Ni-Mh) battery which, like other Toyota Hybrid Electric Vehicles, is self-charging. The owner therefore does not need to locate a charging station to recharge at any time and only needs to ensure that there is adequate fuel in the tank.

Maximum output from the M20A-FKS engine in the Zenix 2.0 V is 128 kW (174 ps) of power at 6,600 rpm and 205 Nm between 4,500 and 4,900 rpm. The M20A-FXS engine of the all-new Zenix 2.0 HEV develops 112 kW (152 ps at 6,000 rpm with 188 Nm between 4,400 – 5,200 rpm. However, with the electric motor providing additional power, the system output available is up to a maximum of 137 kW (186 ps).

For the all-new Zenix 2.0 V, drive to the front wheels is via a K120 10-speed Direct Shift CVT with Sequential Shiftmatic. This newly developed transmission has a 'launch gear' mechanism used with a conventional belt and pulley mechanism. It offers better fuel efficiency, quietness and strong acceleration from low speeds. To use the Sequential Shiftmatic to manually select virtual gears, shift paddles provided.

The all-new Zenix 2.0 HEV uses an E-CVT for power delivery and is specially designed for HEV models. This transmission functions like a CVT with an infinite number of gear ratios to suit every driving situation but has intelligent operation which analyses vehicle operation to provide the optimal ratio for maximum efficiency at any moment.

Besides 3 drive modes to optimise engine performance, the all-new Zenix 2.0 HEV also has an EV mode which can allow the powertrain to run only on electricity for short distances. In normal driving conditions, the HEV system will automatically adjust use of the engine and electric motor power but EV mode allows only electric power to be used (subject to the battery having sufficient energy at that time).

## SAFETY

The all-new Zenix is the first model in the Toyota line-up with Toyota Safety Sense 3.0 (TSS 3.0). Besides offering safety features never before offered in the Innova, TSS3 also makes the all-new Zenix Best In Class with the most advanced safety package.

TSS3.0 consists of five Active Safety Systems:

- Pre-Collision System (PCS)
- Dynamic Radar Cruise Control (DRCC)
- Auto High Beam (AHB)
- Lane Departure Alert (LDA)
- Lane Tracing Assist (LTA)
- Road Sign Assist (RSA)

While most of these systems are already available, for TSS 3.0, they have been further developed to expand their range of capabilities significantly. This is contributed by a new camera sensor with enhanced features such as an expanded detection angle (up/down and left/right) with greater forward detection (approximately two times further).

Toyota continues to include the use of a millimetre-wave radar sensor in the grille to provide supplementary scanning of the road ahead. This is useful especially in bad weather conditions when a camera alone may have its performance affected. The latest radar sensor for TSS 3.0 has expanded detection target range of obstacles closer to the sensor.

TSS 3.0 also has the reinforced detection technologies for recognition of driving lanes and obstacles. These technologies include Motion3D with expansion of the object detection as well as enhancement of Deep Neural Network.

An advanced feature of TSS 3.0 which is still not widely available in Malaysia is Road Sign Assist (RSA). The camera can detect and analyse specific types of road signs and inform the driver via a warning on the instrument panel display or a notification.

At this time, RSA is able to recognise signs showing speed limits but will have added capability to recognise other types of signs in future as well. It should be noted that recognition of signs is dependent on environmental factors as well as the condition of the signs. Just like a dirty windscreen may cause reduced visibility, the camera may not fully detect a speed limit sign in bad weather. Therefore, the driver will still have to maintain attention while driving.

RSA can also be set to integrate with DRCC to override the set cruising speed if it is higher than the speed limit detected. For example, if the driver has set 110 km/h and the vehicle is cruising at that speed, it can automatically reduce speed to 90 km/h when the system detects a 90 km/h speed limit sign ahead.

In TSS 3.0, PCS not only activates Automatic Emergency Braking (AEB) with vehicles, pedestrians or cyclists ahead but can also respond at intersections to prevent collisions with

cross traffic or vehicles making a left/right turn. Likewise, PCS now also includes Emergency Steering Assist (ESA) and Acceleration suppression at low speed to prevent accidental collisions.

DRCC is also much more advanced in TSS 3.0. While its primary function is to maintain the vehicle at a set cruising speed and maintain a safe distance from a vehicle ahead, it now has additional features to enhance its capabilities. The system can evaluate the situation two vehicles ahead so there is earlier response and it can also adjust the speed when making a lane change while DRCC is active.

Besides the systems that are part of TSS 3.0, the all-new Zenix also has Blind Spot Monitor System which alerts the driver with an indicator on the door mirror. There is also Rear Cross Traffic Alert (RCTA) which uses radar to scan both sides as the vehicle is reversing out of a parking bay. Should a vehicle approach from either side, the driver will get an audio alert as well as an indicator flashing on the mirror in relation to the side of the oncoming vehicle.

To assist the driver in manoeuvring and parking, especially in tight spots, there is the Panoramic View Monitor (PVM) which uses mini cameras around the vehicle to provide real-time images. The images can be switched to various views and there is even a simulated view which is like observing the whole vehicle from outside or above. When not required to show the vehicle, the 10.1-inch display can be switched to show route navigation.

A Digital Video Recorder (DVR) specially designed for Toyota models and manufactured to Toyota's high-quality standards is provided. Mounted behind the rearview mirror, it provides audio and video recordings of each drive for memories or to use in the event of an unlikely incident. As it is installed at the plant where the vehicle is produced, installation can be neater and is professionally done.

Other standard safety features include

- Front and rear disc brakes
- Vehicle Stability Control (VSC)
- Anti-lock Braking System (ABS)
- Hill-start Assist Control (HAC)
- Emergency Stop Signal (ESS)
- Electrochromic rearview mirror
- Front and rear parking sensors
- Tyre Pressure Monitoring System
- Electronic Parking Brake
- 6 SRS airbags
- Front and rear seatbelt warning
- ISOFIX points for compatible childseats

## VEHICLE SECURITY

Besides a security system with immobilizer, ultrasonic cabin sensor and glass breakage sensor, the all-new Zenix has a Vehicle Telematics System (VTS) as standard. This system, which uses GPS/GSM signals, can constantly track the car's location. Should it be stolen, it will be easier to locate for faster recovery by the police is possible.

The owner can use a proprietary app installed on a smartphone or tablet to view information on the vehicle's location. Besides location, the app will also provide and record information on vehicle speeds and other operating conditions, with data sent by email to a designated user.

Owners are assured of privacy as the 24-hour Command Centre does not continuously monitor vehicle movements. It will only access such information when contacted by an owner via a dedicated phone number. VTS will be available at no charge for the first three years of ownership.

## WARRANTY

Like all current models offered by UMW Toyota Motor, the all-new Zenix comes with a 5-year warranty with unlimited mileage. The fully-backed factory warranty is transferable to the next owner if it is still in effect when sold off.

For peace of mind, the hybrid battery pack of the all-new Zenix 2.0 HEV has a separate warranty of up to 8 years (also with unlimited mileage). Furthermore, unlike the warranties for hybrid battery packs of other brands, UMW Toyota Motor's warranty package includes the Inverter and Power Management Control ECU for the same length of time. While Toyota has high standards of manufacturing and quality, there may be very rare occasions when defects may occur and should such parts need replacement, the owner will not be required to bear any of the cost. However, there will be a minimal administrative cost for battery disposal.

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