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BRAND-NEW

MAZDA CX-9 PRESS KIT

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A MESSAGE FROM THE PROGRAM MANAGER

BRAND-NEW MAZDA CX-9 – THE APEX OF MAZDA'S NEW-GENERATION LINE-UP

A heart-stirring crossover of family functionality and self-indulgence

Brand-New Mazda CX-9 is Mazda's large three-row crossover SUV that has been fully redesigned embodying the "KODO – Soul of Motion" design language and incorporating our latest SKYACTIV Technologies.

As such, Mazda CX-9 has brought the lightweight, efficient technologies seen in the rest of Mazda's line-up into a larger, more premium package to become a high-end model — the apex of our New-Generation line-up.

The first Mazda CX-9, which we launched in 2007, offered a sporty design and engaging driving experience, values unheard of in the segment at the time.

Brand-New Mazda CX-9 has been created for modern-day parents who want to excel at home, in the workplace, and in every aspect of life. These people see themselves as more than just parents; they are also busy professionals, good friends, fun-loving hobbyists and caring husbands and wives. In other words, they are individuals with their own desires, aspirations and needs for self-expression.

Our aim with Brand-New Mazda CX-9 was to design a vehicle that, in addition to meeting the practical needs of their families, would also allow these parents to express their individuality and enhance the various aspects of their lives.

By achieving this "crossover" between the needs of the family and desires of the individual, we have brought a new and uniquely Mazda value to the segment, just as we did with the original CX-9.

During the development process, we quickly realised that we could not satisfy the type of customer we had in mind simply by focusing on enhanced functionality and specs.

These customers have plenty of experience with high-quality goods and have developed strong individual sensibilities and discerning tastes.

Our challenge then, was to take the thinking and technologies cultivated throughout the development of the Brand-New Mazda CX-9 lineup and elevate them to a new level of holistic product execution.

By fully engaging the senses and enhancing the user experience at every vehicle touch point - looking, touching, driving, feeling, and hearing – we sought to produce a crossover SUV that would truly stir the emotions and win the customer's heart.

Our design goal was to build on the presence and strong feeling of life imbued by KODO and move toward a more premium design execution.

As a result, the bold proportions and lean, dynamic surfacing of the exterior project an image of composure and prestige.

The interior features finely crafted forms and genuine materials carefully chosen for their look, feel and even aroma.

Brand-New Mazda CX-9 introduces the SKYACTIV-G 2.5T, a newly developed

2.5-litre direct-injection turbocharged petrol engine that was engineered to deliver usable torque on par with a 4.0-litre V8 while also allowing the model to achieve best-in-class listed and real-world fuel economy.

The i-ACTIV AWD system utilises intelligent slip-prediction to adapt to any road surface and deliver outstanding all-road stability.

Refinements made to the SKYACTIV-BODY and SKYACTIV-CHASSIS have helped enhance CX-9's renowned sporty handling and are anticipated to offer a best-in-class safety performance. Our aim was to provide customers with outstanding real-world fuel economy and truly

enjoyable performance feel, right down to the carefully tuned engine sound.

Finally, we spared no effort in making sure that the Brand-New Mazda CX-9 would be more than capable of responding to the needs of the today's families.

The cleverly designed cabin space features comfortable second row seats and easy access to the third row, a multitude of well-thought-out storage spaces and a flexible luggage compartment.

MZD Connect, our proprietary infotainment technologies suite, enables a range of functions by pairing to your smartphone and features an easy-to-use and intuitive human-machine interface.

And now, with a wider range of capabilities than ever, i-ACTIVSENSE advanced safety features will help parents enjoy family car trips with peace of mind.

I sincerely hope that Brand-New Mazda CX-9 will brighten the lives of many families and become a trusted companion for whatever journey may lie ahead.

Masashi Otsuka
Vice President in charge of R&D Engineering
Mazda North America Operations

AT A GLANCE

BRAND-NEW MAZDA CX-9 FAST FACTS

- The new generation Mazda CX-9 is available in four grades for the first time including: the entry-level Sport, core-grade Touring, high spec GT and high plus grade Azami
- Available with both Front-Wheel Drive (FWD) and All-Wheel Drive (AWD) drivetrains, it brings the complete range of CX-9s on offer to eight – the largest ever offered
- Boasts combined fuel economy figures from a low 8.4 litres per 100 kilometres for FWD, and 8.8 litres per 100 kilometres on AWD models. This represents an improvement of almost 25 per cent compared to the previous model
- The Brand-New Mazda CX-9 will be the most economical in its class when compared to other seven-seater petrol models
- An all-new 2.5 litre direct-injection turbocharged petrol engine with both i-stop and i-ELOOP technology debuts on the Brand-New Mazda CX-9
- It features the impressive i-ACTIV AWD all-wheel drive system, an on-demand AWD system featuring 27 sensors that check road conditions 200 times every second to give added grip where required. It has been designed to respond to ever changing road conditions to give a consistent, confident drive.
- Priced from $42,490, this represents a price reduction of $1,280 compared to the previous generation entry model
- The First Generation CX-9 arrived in December 2007. Since then almost 33,000 have been sold in Australia
- Available with class-leading standard i-ACTIVSENSE technology, new to CX-9 safety equipment includes Adaptive LED Headlamps (ALH), Driver Attention Alert (DAA), Lane Keep-assist System (LAS), Smart Brake Support (SBS) and Smart City Brake Support [Forward/Reverse] (SCBS F/R)
- Available in seven colours including Soul Red Metallic and the brand-new Machine Grey Metallic.

SALES AND MODEL MIX

The seven-seat Mazda CX-9 was launched into the Australian market in December 2007. By October 2009, the CX-9 was refreshed, further improving refinement and styling. It sported a bolder and more sophisticated design, incorporating Mazda's expressive five-point grille 'family face', and enjoyed an interior and equipment upgrade, amongst other things.

A further update in December 2012 saw Mazda's largest SUV get a partial KODO treatment that kept it looking modern amongst its competitors.

The Brand-New second generation Mazda CX-9, launched in July 2016, is the final of the sixth generation Mazda nameplates to incorporate the globally-praised "KODO – Soul of Motion" design language, and includes a range of technical advancements and new i-ACTIVSENSE safety technologies, plus plenty more.

With Australian sales approaching 33,000, and averaging just over 4,000 retails a year, the arrival of Brand-New Mazda CX-9 is expected to increase interest in Mazda's family-sized SUV.

Supported by an extensive national marketing campaign, Brand-New Mazda CX-9 goes on sale during the first week of July with four grades on offer, in both Front-Wheel and All-Wheel Drive.

Mazda Australia expects approximately 500 sales per month during its first year, maintaining this figure across its lifecycle, with the following model and Drivetrain splits:

Grade	First 12 months	Lifecycle
Sport	10%	15%
Touring	35%	40%
GT	30%	25%
Azami	25%	20%
FWD	50%	55%
AWD	50%	45%

BRAND-NEW MAZDA CX-9 HIGHLIGHTS

MAZDA CX-9 SPORT

Manufacturer's List Price (MLP)

$42,490 (FWD)

$46,490 (AWD)

Powertrain

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: FWD
- Fuel consumption (combined): 8.4 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

OR

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: i-ACTIV AWD
- Fuel consumption (combined): 8.8 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

Sport features include:

- 18-inch alloy wheels with 255/60 tyres
- Headlamps (LED)
- Air-conditioning (three-zone climate control) with independent rear control
- Rear-view mirror with auto dimming function
- Rear seats with: 60/40 split fold backrest (2nd row) and 50/50 split fold backrest (3rd row)
- Seat trim: black cloth
- 7-inch touchscreen display (MZD Connect)
- Audio system with AM/FM tuner and 6 speakers
- Bluetooth® hands-free phone and audio capability
- Internet radio integration (Pandora®, Stitcher™ and Aha™)
- Multi-function commander control
- Satellite navigation
- Advanced Blind Spot Monitoring (ABSM)
- Advanced keyless push button engine start
- Parking sensors (rear)
- Rear Cross Traffic Alert (RCTA)
- Reverse camera
- Smart City Brake Support [Forward/Reverse] (SCBS F/R)

MAZDA CX-9 TOURING

Manufacturer's List Price (MLP)

$48,890 (FWD)

$52,890 (AWD)

Powertrain

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: FWD
- Fuel consumption (combined): 8.4 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

OR

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: i-ACTIV AWD
- Fuel consumption (combined): 8.8 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

Touring features additional to Sport include:

- Front fog-lamps (LED)
- Headlamps auto on/off function
- Wipers front 2-speed with rain-sensing function
- Front seats with: 6-way power adjustment, lumbar adjust (driver only) and heating function
- Rear seats with: centre armrest storage and USB input ports (2nd row)
- Seat trim: black leather
- 8-inch touch screen display (MZD Connect)

MAZDA CX-9 GT

Manufacturer's List Price (MLP)

$57,390 (FWD)

$61,390 (AWD)

Powertrain

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: FWD
- Fuel consumption (combined): 8.4 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

OR

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: i-ACTIV AWD
- Fuel consumption (combined): 8.8 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

GT features additional to Touring include:

- 20-inch alloy wheels with 255/50 tyres
- Advanced keyless entry
- Remote operated power tailgate (open/close)
- Power sliding and tilt glass sunroof
- Active Driving Display
- Front seats with: 2-position memory function (driver)
- Seat trim: Black or natural stone leather
- Audio system with: Digital radio (DAB+)
- Premium Bose® 294 watt amplifier and 12 speakers (including subwoofer)
- Parking sensors (front)

MAZDA CX-9 AZAMI

Manufacturer's List Price (MLP)

$59,390 (FWD)

$63,390 (AWD)

Powertrain

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: FWD
- Fuel consumption (combined): 8.4 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

OR

- 2.5 litre in-line 4 cylinder 16 valve DOHC S-VT turbo petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP
- Drivetrain: i-ACTIV AWD
- Fuel consumption (combined): 8.8 l/100km
- Max power: 170kW @ 5,000rpm
- Max torque: 420Nm @ 2,000rpm
- Transmission: 6-speed auto (SKYACTIV-Drive)

Azami features additional to GT include:

- Mazda Radar Cruise Control (MRCC) with Stop & Go function
- Adaptive LED Headlamps (ALH)
- Driver Attention Alert (DAA)
- Lane Departure Warning (LDW)
- Lane-keep Assist System (LAS)
- Smart Brake Support (SBS)

DESIGN: THE MOST PREMIUM EXECUTION OF THE KODO DESIGN THEME YET

Exterior

- Athletic proportions; a sleek cabin coupled with a strong and stable lower body and a planted trapezoidal stance when viewed from front or rear
- Large and confident grille underscored by a deeply sculptured signature wing presents a proud front fascia
- LED headlights and taillights standard across all model grades feature an intricate design and create a sleeker, more premium look
- Seven body colours are available, including the newly developed Machine Grey Metallic, a colour conceived to make the car look as if it has been carved from a solid steel ingot
- Large 20-inch wheels feature a bold, sharp design. 18-inch wheels have an awe-inspiring form that accentuates their size and mass. Both impart a strong presence that suits the premium look of the exterior.

Interior

- Great attention was paid to interior lighting and ambience
- Tight interior panel gaps, large, single-piece decorative trims, and carefully designed door jambs and sills highlight the quality and craftsmanship of the design.

Packaging: Practical size and utility combined with premium execution

Compared to the original CX-9, increased overall width and a longer wheelbase preserve interior space and allow for larger door apertures, easing entry and exit.

Children can easily access the third row without parental help, even with a child seat installed in the second row. Levers and handles have been made light and intuitive to operate with children in mind.

A wide variety of well-thought-out storage space keep clutter out of sight and meet the needs of the modern, connected family, including a total of four USB ports.

The luggage space is practical and easy-to-use in a variety of configurations. When both rows of seats are folded they create a flat and nearly horizontal load floor. The rear lift-gate is available with adjustable press-button electric operation.

Powertrain: Range-topping engine of the SKYACTIV-G series and i-ACTIV AWD

Brand-New Mazda CX-9 is powered by the SKYACTIV-G 2.5T, the newly-developed top-of-the-range SKYACTIV-G petrol engine. It delivers the torque of a 4.0-litre V8, yet allows CX-9 to achieve fuel economy figures that are almost 25 per cent better than the outgoing model.

This new turbocharged engine was developed in line with Mazda's philosophy of offering the same performance combination that has won the SKYACTIV engine praise around the world – outstanding fuel economy along with excellent dynamic performance in the low- to mid-rpm range where drivers spend the majority of their time – across all vehicles lines, achieved through a combination of appropriate engine displacement and maximum technological simplicity.

SKYACTIV-G 2.5T features new technologies designed to overcome two major issues that affect many turbocharged power plants; delayed and non-linear throttle response at low rpms – commonly known as turbo-lag – and disappointing real-world fuel-economy performance.

The world's first Dynamic Pressure Turbo controls the degree of exhaust pulsation depending on engine speed. The turbo is driven by a constant pressure flow at higher rpms, but the system re-routes the exhaust to take full advantage of the energy in each exhaust pulse and maximises the turbine driving force at lower rpms. This eliminates turbo-lag, providing linear and powerful acceleration with outstandingly quick throttle response.

A cooled exhaust gas recirculation system reduces the combustion temperature and allows the engine to maintain the ideal air-fuel ratio (λ=1) over a much wider output range, improving efficiency and real-world fuel economy performance.

Adopting the SKYACTIV-Drive automatic transmission, which features an expanded lock-up range for efficiency and direct feel, drivers can select sports mode or manual shift mode for more spirited driving.

Available with i-ACTIV AWD, a predictive all-wheel drive system that monitors 27 sensors in order to detect and react to tiny amounts of traction-loss before the driver can feel it. The system provides secure traction on all kinds of road surfaces at a minimal weight and fuel economy penalty.

BODY and CHASSIS: Lighter & more rigid, a quieter & more premium ride

Brand-New Mazda CX-9 is approximately 130kg lighter than the model it replaces and one of the lightest vehicles in its class.

Weight reduction is thanks largely to the adoption of the SKYACTIV-G 2.5T, the light and rigid SKYACTIV-BODY and SKYACTIV-CHASSIS, and the use of aluminum for the bonnet and front guards.

The result is improved fuel economy and acceleration performance, and because most of the weight reduction is over the front axle, handling and steering response are also improved.

Thicker sheet metal, more sound-absorbing materials, improved door seals and sound-insulating glass combine to produce a dramatic improvement in NVH performance and provide a premium driving experience.

Applying the principles of SKYACTIV-BODY, and increasing the use of high-tensile steel to 62 per cent, means the body of the Brand-New Mazda CX-9 saves weight over its predecessor despite big improvements in crash safety performance. Torsional rigidity is improved by a massive 65 per cent, making CX-9 one of the most rigid vehicles in its class and improves handling.

Several refinements have been made to the SKYACTIV-CHASSIS (with strut suspension in the front and multi-link in the rear) to give the Brand-New Mazda CX-9 a more premium ride feel. These include improving the angle of the dampers and replacing the solid rear bushings in the front suspension with a liquid type that provide a better combination of stiffness and compliance.

Safety: Top-level passive safety and an extensive range of advanced safety features

As befits a high-end family car, Brand-New Mazda CX-9 is designed to provide outstanding passive safety and features an extensive range of i-ACTIVSENSE safety technologies.

In addition to features introduced on previous models, such as the SBS and SCBS automatic braking systems, Mazda Radar Cruise Control (MRCC), Adaptive Front-lighting System (AFS), and Advanced Blind Spot Monitoring (ABSM), Brand-New Mazda CX-9 introduces the following new technologies:

Lane-keep Assist System (LAS) works together with the **Lane Departure Warning System (LDWS)**, which warns the driver with a sound (or by vibrating the steering wheel) and a visual display if the vehicle starts to stray from its lane. LAS itself can be set to provide steering assistance, either to keep the vehicle centered in its lane or simply to prevent it from straying over the line.

Mazda Radar Cruise Control (MRCC) with Stop & Go function is a first for Mazda. While MRCC has been available for a number of years now, the system has been updated for the new CX-9 to allow automatic stop and go, greatly reducing the burden on the driver when crawling through heavy traffic.

HMI & Connectivity: Mazda's first windshield-projected full-colour Active Driving Display

Brand-New Mazda CX-9 is the first Mazda to adopt a full-colour Active Driving Display (Active Driving Display) projected onto the windscreen.

Positioning key driving and navigation information just below the driver's line of sight and at a focal distance of 2.5 metres, the full-colour Active Driving Display is in line with Mazda's Heads-Up Cockpit concept of keeping the driver focused on the road as much as possible.

The Brand-New CX-9 features the most up-to-date version of the MZD Connect system which links to your smartphone, making it easier to connect with friends, the Internet and social media while on the move.

In addition, the centre display that sits upright on the dash has been enlarged to 8 inches on higher trim levels. As in other models that feature Mazda's safety-first HMI, this functions as a touchscreen when the car is stationary and is controlled by the commander control knob when on the move.

PRICING

Grade	Drive	MLP*
Sport	FWD	$42,490
	AWD	$46,490
Touring	FWD	$48,890
	AWD	$52,890
GT	FWD	$57,390
	AWD	$61,390
Azami	FWD	$59,390
	AWD	$63,390

*Manufacturer's List Price (MLP) includes GST and Luxury Sales Tax (LST) where applicable but excludes dealer delivery, registration, third party insurance costs, stamp duties and other mandatory charges.

KEY PRODUCT VALUES

Inspiration for the Brand-New Mazda CX-9 came from real families facing real life challenges. During development, Mazda visited customers in their natural environment - including Australia - at home, in their vehicles, and driving around town to understand their lifestyle, values, aspirations and day-to-day challenges.

After this eye-opening research, the development team brainstormed how Brand-New Mazda CX-9 would benefit the customer and the meaning it might hold in their lives.

The team arrived at four key product values, each centered on helping customers achieve their ideal family environment and fulfill their individual aspirations. These are: personal aspiration, effortless transition, easy parenting and couples retreat.

Personal aspiration

This value of CX-9 helps an owner feel satisfied and excited about his or her personal space and style.

These feelings are fostered by CX-9's attractive and athletic design, its imposing presence and its dynamic performance.

When not serving as family transport, the CX-9 is satisfying to drive on a challenging road and contributes to the excitement of a date night or romantic weekend getaway with its stylish, elegant, and eye-catching appearance.

Effortless transition

The value of 'effortless transition' is to support the busy life of parents with dual responsibilities: parental and professional.

As a parent you need a vehicle that can carry your children and all their belongings comfortably and safely. As a working professional, you need a sophisticated, organised and clean vehicle. Meeting both needs with one vehicle is a challenge.

A key approach to this challenge is to provide plenty of nooks and crannies for the innumerable items that are intrinsic to the 21st century family. This makes these items available for passengers when they need them, but also lets you easily hide them away when you want to leave your personal objects behind for an uncluttered and professional appearance.

Easy parenting

While there's certainly a lot of joy involved in parenthood, it can also be exhausting. Mazda identified areas to help reduce the stress and effort of parenting to make for a more fully balanced life.

In addition to designing the Brand-New Mazda CX-9 with plenty of space for people and their personal items, Mazda engineers and designers made its many features easy for everyone in the family to use.

For example, a simple lever controls access to the third row seating, allowing children and rear-seat passengers to let themselves in and out. The second-row seat can even slide forward without the need to remove an affixed baby or child seat.

The lift-gate opens and closes with the press of a button (on GT and Azami grades) or minimal effort so that even children can operate it. Third-row seats fold down in a quick and simple action, headrests folding neatly out of the way.

And when you need extra space to carry big items or a lot of gear, a simple lever folds the second-row seat to produce a flat-load floor.

Couples retreat

For many families, the relationship between the parents often takes a backseat thanks to the focus on the children.

This key value was the key consideration on Brand-New Mazda CX-9. The aim is to offer an environment that supports a more intimate and indulgent experience so that parents get to enjoy their own space, akin to a couple's retreat.

Whether parents are driving with their children or by themselves, CX-9 is designed to make them feel special with an indulgent interior ambiance, created by clean design, lovely details, high-end materials, and fine craftsmanship. The front passengers feel as though they're in a premium sedan rather than a family-hauler.

This impression is reinforced by CX-9's effortless performance, comfortable and controlled ride, precise handling and quiet cabin, which makes it easy for all of the passengers to share conversation.

As a result, front-seat passengers almost feel as if they're by themselves – something that most parents relish.

DESIGN

ALLURING PRESTIGE

This Brand-New Mazda CX-9 is the latest execution of Mazda's award-winning "KODO – Soul of Motion" design language and takes the concept to a new level that designers have themed *Alluring Prestige*.

For the designers, the goal was to imbue Brand-New Mazda CX-9 with a premium appeal and distinguish the model from a segment awash in convention.

KODO design provided a perfect medium for achieving this goal because it does not consist of a series of immutable design cues. Rather, it's a philosophy encompassing bold proportions, careful surfacing, a subtle interplay of lines and sophisticated detail development.

Inspired by the powerful beauty of wild animals in the split second before motion begins, it's hard to describe, but you know it when you see it, and the KODO philosophy can be incorporated in vehicles as different in size and intent as CX-9 and the MX-5. In this latest iteration of KODO, the emphasis was on purity, simplicity, and Japanese beauty.

CX-9's lean, dynamic surfacing harmonises with the refined, precise details such as the prominent three-dimensional grille and the intricate headlights. The imposing lower body implies substance and strength while the sleek upper body imparts a sense of motion – even when it's standing still.

Viewed from either end, CX-9 displays a trapezoidal profile that presents a wide and stable stance, gradually tapering to a narrower roof – a profile emphasising its sporty, sophisticated design.

Inside, CX-9 presents a clean and elegant dashboard, with a logical and intuitive control layout.

Cleverly designed interior lighting enhances the design while details such as the consistency of lettering and illumination of the various electronic displays are carefully coordinated.

The end result is a sense of Alluring Prestige that comes from the tasteful beauty of the design and the excellence of its execution.

EXTERIOR

Powerful stance

All automotive design begins with proportion. The confluence of a car's various elements and the relationship the body has with its tyres determines the immediate impressions that are formed by a design. With the Brand-New Mazda CX-9, the goal was to create an athletic stance based on a sense of power and stability.

This sense of power comes from the long bonnet, which conveys a feeling of considerable contained energy. The sense of stability is produced by the strong lower body with its contrasting lines, pulled-in lower rear quarters and muscular wheel wells. This is further enhanced by the large wheels and tyres (255/50 R20), short overhangs and wide stance, placing the outside surfaces of the wheels as close as possible to the outer edge of body.

This strong lower body combines with a sleek upper body that employs a steeply angled rear window and the gently tapered roofline to create a sense of athleticism that further reinforces the notion of power and speed.

Viewed from either end, this wide stance gradually tapers inward as the body rises towards its roof, producing the trapezoid stance that implies stability, speed and traction.

Proud front fascia

One common characteristic among modern prestige vehicles is a prominent, distinctive, and recognisable front fascia. Mazda's characteristic five-sided grille, underscored by the signature wing, provided the perfect foundation for achieving such a look on the Brand-New Mazda CX-9.

For CX-9, the grille was expanded in size to match the body's overall height and width. Furthermore, it was given dimensionality by making the signature wing grille surround in a deep shape that almost projects an image of the grille forward.

Each of the five horizontal elements in the grille is proportionately wider to match the large grille dimensions. And each one has a distinctive double-bar treatment to give the grille a richer and more substantial look while staying true to the Mazda heritage.

Extensions of the grille's signature wings lead into CX-9's beautifully integrated standard LED headlights. The headlights are relatively compact from the front view, but curl around CX-9's front corners and extend well into the front fenders.

Band of strength

When looking at CX-9, one can't help but notice the detailing at the level of the belt line, which extends from the headlights, across the tops of the front fenders and along the tops of the doors to the taillights.

This band of strength incorporates the subtle interplay of lines above the rear door handles to create a connection with the lower body.

With its forward tilt, this band of strength also imparts an energetic forward motion to CX-9.

Refined precise details

The headlights are the eyes of any car and the CX-9's draw you in with their intricate design and simple, but beautifully executed details made possible by the LED lighting elements.

The LED taillights reflect a similar design theme by wrapping around the body much like the headlights and also focusing the eye on their prominent round element.

LED lights are unusual in this market segment, but have several important benefits including compact size.

Their small size gives the designers great freedom in the design of both the head and the taillights. In CX-9, the smaller headlights help to highlight the size of the grille and at the back, the rear combination lamps work in combination with the rear signature wing to achieve a more three-dimensional form.

The air intakes in the lower front quarters are another delightful detail, with careful sculpting to integrate them into the front fascia the bright trim that defines the lower edge of CX-9.

For the wheels, Mazda strived for designs that both give the wheels a lightweight look and express a dynamic and three-dimensional motion emanating from the hub to the outer rim.

Also, consistent with Mazda wheel designs since the CX-5, they have also focused on producing a deep metallic texture through the interplay of form and painted surface.

With CX-9's wheels, they aimed to work from this base and move toward a more premium expression.

The GT and Azami grades are equipped with 20-inch aluminum wheels. They feature a sharp but bold design with a strong presence, and are finished with a high gloss paint that enhances the texture of the metal.

The Sport and Touring models feature 18-inch aluminum wheels with an awe-inspiring form that enhance both size and mass. On the Touring, these wheels are finished with high gloss paint.

Machine Grey, and other colours

One of the signature design elements of the Brand-New Mazda CX-9 is the newly-developed Machine Grey paint.

It's a finish conceived to make CX-9's body look as if it had been carved from a solid block of steel and left in its perfectly machined state.

Machine Grey is applied with the same Takuminuri paint method that is used for Soul Red and achieves the same combination of depth and vividness.

This contrast between the depth of shadows and brightness of the highlights emphasises the constant flow of reflections over the body surfaces and shows off KODO styling at its very best.

Achieving this finish requires a number of steps. The most important is starting with the flawless surface finish on CX-9's metal body panels.

Then, the paint is applied in three layers; a black base for contrast and dimension, a metallic base to create a liquid metal effect and a clear coat.

To achieve the correct appearance, the metallic base paint layer must be applied so that the metal flakes can lie down flatly, evenly and consistently. The application of the clear coat is also critical because in order to achieve a uniform colour, it must be applied with a consistent thickness.

In addition to this signature paint, the new generation CX-9 will be offered in Soul Red Metallic, Snowflake White Pearl Mica, Sonic Silver Metallic, Jet Black Mica, Deep Crystal Blue Mica and Titanium Flash Mica.

Coinciding with the start of Brand-New Mazda CX-9's production, Mazda will upgrade its painting process at Ujina Plant No.1, which manufactures several models, including CX-9.

In addition to the Aqua-tech paint system already in use, Mazda will become the first Japanese automaker to adopt a two-liquid urethane clear coat, which improves both durability and smoothness.

This is an exacting method usually reserved for premium luxury vehicles and the result is a particularly rich finish with all of CX-9s available colours.

INTERIOR

A striking and beautiful exterior sparks the initial appeal of any vehicle, but it is the look, feel, design, and execution of the interior that creates the comfortable and pleasing ambiance that satisfies drivers and passengers over the long term.

To firmly establish CX-9 as Mazda's high-end model , the designers worked very hard to create the most appealing interior in the company's history by combining honestly used premium materials, executed with fine craftsmanship in an elegant design that reflects traditional Japanese values.

Enveloping horizontal interior

The Brand-New Mazda CX-9's cockpit creates an inviting ambiance that is simultaneously spacious and cosy.

The interior is dominated by the horizontal dash that flows smoothly into the front doors, emphasising the width of the cabin and creating a sense of roomy comfort. This impression is reinforced by the graceful slope of the dashboard towards the windshield, which creates an even more open sensation.

A wide, sweeping accent on the dash, as well as artfully crafted details such as the outside vent registers that sweep into the handle areas on each front door; accentuate the dashboard's sweeping design.

Complementing this theme is the high and wide centre console that creates the sensation of a cosier footwell without limiting space. The generous width provides room for the shifter, the multi-function commander control, which operates the MZD Connect infotainment system, as well as the HVAC controls, the centre armrests, the cup holders, and for odds and ends. While serving these highly practical needs, it adds a sense of confidence to CX-9's interior.

There's a forward sweep to many of these interior elements, such as the upward slope of the centre console, the slightly inward tilt to the edges of the armrests in the doors and the upper trim elements that create a dynamic forward direction, reinforcing the sporty and energetic feel of the Brand-New Mazda CX-9.

Thoughtful instruments and controls

One of the attractions of the original CX-9 was its simple and elegant interior, uncluttered by masses of switches and controls. This philosophy continues with the Brand-New Mazda CX-9, which incorporates the latest entertainment and driver assist technologies while maintaining a clean, simple and intuitively designed layout.

Ahead of the driver is a classic three-dial instrument cluster with a central speedometre, a tachometre is on the left and a reconfigurable display is on the right.

To promote *Jinba-ittai* – creating a sense of oneness between driver and vehicle – the centre of this instrument cluster, as well as the steering wheel, is carefully aligned with the centre of the seat, achieving optimal driver ergonomics.

Moreover, the panel on the driver's door – which includes window and mirror controls – is positioned so that it is level with the top of the centre console. The same goes for the armrests on the doors and the ones at the back of the console. Even the texture and feel of the armrests on the doors and on the centre console complement one another.

At the top of the dash in the centre is an LCD touchscreen, which sits high to minimise how far the driver must divert his or her eyes when resetting focus from the windshield view. This screen is operated by the multi-function commander control on the centre console just behind the gear shift.

Thanks to the high centre console, this commander is located within driver's reach, reducing the distance that the driver's right hand needs to move from the steering wheel. And its height has been carefully set so that it falls readily to hand when the driver uses the centre armrest.

The climate controls are just forward of the gear shift below the central vents of the system. They are segregated from the other controls to avoid confusion, and their central location makes them easy to adjust and operate.

To make it even easier for the driver to concentrate on the road, an available heads-up Active Driving Display projects key driving information onto the windscreen just above the instrument cluster.

For further convenience, several functions of the infotainment system can be controlled by convenient steering wheel buttons.

No detail was overlooked in the effort to create an emotionally inviting and rewarding driving experience.

Designers even improved the fonts used by the various displays by reducing the gaps between the segments to create the letters and numbers – down to 0.1mm. They also coordinated fonts on the various displays to bolster the sense of harmony and consistency.

Interior choices

Brand-New Mazda CX-9 is available in four different trim levels; entry, core, high and high plus. Each comes with a unique interior treatment.

Azami: High plus grade

The base colour of the interior, including the ceiling, is black, creating a stylish space while the genuine materials collaborate with the clean design to produce an atmosphere of luxury.

GT: High grade

A neutral black colour shows off both the richness and functionality of the smooth leather seats, while a deep red is used in the centre of the instrument panel, and console, to highlight the centre console and horizontal composition of the interior space.

This contrasts with the stylish atmosphere created by the black ceiling, adding a florid splash of sensuality.

In addition, this grade and the Azami above it, is available with Natural Stone coloured leather with same colour trim highlights, and includes an instrument panel and console that has a black centre, rather than the red mentioned above.

Sport and Touring: Entry and core grades

While maintaining the stylish and high quality feel of the interior, Mazda aimed to ensure the intimate and functional spaces in the Sport and Touring models could be used by everyone.

A white ceiling creates a brighter space and works together with the black base colour, highlighted by satin plating on the switches and controls, to create a reserved, monotone space that maintains a practical feel.

The Touring features Black leather while the Sport grade features high-quality Black fabric upholstery.

Interior lighting

After dark, on upper trim levels of CX-9, thoughtful lighting welcomes the driver and passengers into the cabin.

As you open the door, lights illuminate the seats and the ground around your feet, both front and rear. After closing the door, the centre console and the door trim illuminate to direct the driver toward the operating area of CX-9.

Underway, subtle lighting continues to illuminate areas such as the door handles and central console to create a more engaging ambiance as well as making it easier to operate the controls.

When you have finished your journey, the cluster and interior lights begin to gradually fade to darkness.

After locking the car, the headlights remain illuminated for an adjustable time period to ensure that driver and passengers are not exiting into darkness.

PACKAGING

PRACTICAL SIZE AND UTILITY WITH PREMIUM EXECUTION

The Brand-New Mazda CX-9's foundation is Mazda's large, front-drive (C/D-segment) platform, which can provide the passenger and cargo space expected by families in a three-row crossover utility vehicle.

Engineers worked closely with the design team to ensure that the beautiful KODO design would accommodate the interior dimensions required by active families and discerning customers who need to provide comfortable family transportation for up to seven passengers and their belongings.

Dimensions

The size of the Brand-New Mazda CX-9 is in-line with its predecessor, which was generally considered an excellent example of layout and packaging.

Overall length in the new CX-9 is 5,075mm, which is actually 31mm shorter than before, but the wheelbase is 2,930mm, or 55mm longer.

The longer wheelbase and shorter overall length means shorter front and rear overhang – 66mm and 20mm less, respectively – that helps provide a more athletic appearance and more stable stance.

At the same time, the longer wheelbase preserves interior space and allows for larger door apertures for easier entry and exit.

Another important change in the Brand-New Mazda CX-9's profile is the rearward move of the A-pillars by about 100mm.

With the reduction in front overhang, this change increased the length of the bonnet, which is consistent with KODO design by creating an impression of power. The longer bonnet also gives the CX-9 a sportier profile compared to its competitors.

Since the longitudinal position of the driver is essentially unchanged, this substantial rearward movement of the A-pillars increases forward visibility by taking the A-pillars further out of the driver's field of view.

Combined with the redesign of the exterior mirrors, which are mounted to the doors rather than the A-pillars, these changes provide a space to see between the mirror and the pillar, greatly reducing the size of the blind spot in the front quarter view.

As a result, cornering visibility is better, as is the ability to see children and other pedestrians when driving in close quarters.

Looking to maintain a sleek profile, the overall height of the Brand-New Mazda CX-9 is 1,747mm.

Width is up 33mm to 1,969mm to both enhance interior space and to create a more stable and athletic stance.

At the same time, the largest available tyre was increased from 245/50R20 to 255/50R20, achieving an 11mm increase in diametre and further contributing to its solid and sporty appearance.

Inside, legroom and headroom are similar to the previous CX-9's.

The first and second row seats are designed to easily accommodate the vast majority (95 per cent) of adults, while the third-row seat can comfortably seat children in their early teenage years or adults in a pinch.

In order to achieve this amount of space with CX-9's sleek roofline, engineers carefully worked on the design of the seats to maximise the available space.

They reduced the thickness of the second-row seatback to provide more knee-room for the third-row occupants. They also reduced the thickness of the third-row seat, lowered it and reclined the seating position slightly for greater comfort.

Finally, structural engineers created a thinner rear headliner for more vertical space.

Comparison of exterior dimensions (In-house measurements)

		Brand-New Mazda CX-9	Outgoing CX-9
Overall length	mm	5075	5106
Overall width	mm	1969	1936
Overall height	mm	1747	1728
Wheelbase	mm	2930	2875
Front overhang	mm	1032	1098
Rear overhang	mm	1113	1133
Tyre size		255/60R18 255/50R20	245/60R18 245/50R20
Turning circle (curb-to-curb)	m	11.8	11.4

Comparison of interior dimensions (In-house measurements)

		Brand-New Mazda CX-9	Outgoing CX-9
Headroom Front / Middle / Rear *	mm	998 / 978 / 899	1005 / 990 / 899
Shoulder room Front / Middle / Rear	mm	1472 / 1476 / 1350	1510 / 1490 / 1444
Hip room Front / Middle / Rear	mm	1439 / 1457 / 1020	1435 / 1422 / 1111
Legroom Front / Middle / Rear	mm	1041 / 1001 / 755	1038 / 1010 / 824

* Without sunroof.

Driving position

In keeping with the principals of KODO design and *Jinba-ittai* driving, Mazda places great emphasis on the driver comfort in all of its vehicles.

This is reflected in CX-9 by the particular care with which the controls and instruments are located in relation to the driver's seat.

This means that the main instrument cluster is directly centred on the driver's seat, as is the steering wheel. The pedals are also positioned symmetrically and naturally to match the driver's seat location.

The shifter position on the console is high enough that it is easy for the driver to move a hand from the steering wheel to reach it.

Similarly, the height of the centre console armrest had been placed to facilitate an easy reach to the shifter, as well as the commander that controls the MZD Connect system.

Seats

The design of the seats are as important as the driving position in creating the *Jinba-ittai* driving experience, because much of a car's behaviour is transmitted to the driver through body contact with the seats.

For this reason, the construction of the seatback structure was changed from a spring type to a suspension mat type for the front seats of CX-9.

This design allows the seat to easily conform to the contours of the occupant's body, dispersing pressure over a wide area and avoiding uncomfortable pressure points. At the same time, the seat firmly holds the upper body of the driver making long trips less tiring, helping the driver to maintain an appropriate driving posture.

Also, Brand-New Mazda CX-9 gives high-quality ride comfort by adopting low-rebound high-damping urethane for vibration absorption in the seat back as well as the seat cushion, a first for Mazda.

This material transmits desirable feedback from the road surface to the driver, while filtering unpleasant vibrations from rough road surfaces.

For the second-row, the thickness of the seat backs was reduced, contributing to increased leg room.

The vibration-absorbing urethane used in the front seats is also used in the cushions of the second-row seat that are 32mm wider than the previous model, allowing the occupant sit in a more relaxed manner.

The urethane in the seat back is 30 per cent less rigid to increase its body-holding capability, and its density is increased by 40 per cent, making for a very comfortable seat.

To maximise the comfort of the third-row seat, the thickness of the urethane is increased to a class-leading 97.8mm.

Mazda's efforts towards human-centered design have delivered outstandingly comfortable seats in all three rows.

Well thought-out storage

A family-sized SUV needs more than just adequate space; it must also be easy for many combinations of occupants to use this space in different configurations.

CX-9 was designed with great attention to all of its potential uses to make sure that this usability was available and beneficial.

In the front seat there's storage in the centre console forward of the shifter, two cup holders, a large bin beneath the central arm rests, a glove box, and bins at the bottom of each door.

All of these storage locations are designed to be easily accessible and not block any displays or controls when in use.

The second-row passengers (up to three of them) also get a pair of door pockets, as well as front seatback pockets (each with a pair of divider sleeves to segregate items if necessary).

A folding centre armrest with two drink holders also contains a storage bin (not available on the Sport grade) suitable for smart phones or electronic games.

The second-row seat adjusts 120mm fore-and-aft so that leg room can be maximised when the third row is empty or more equally distributed when there are children in both the second- and third-row seats.

The two-passenger third row also has a pair of drink holders as well as storage for small electronics.

These cup-holders are made from the same bio-based engineering plastic used in the All-New Mazda MX-5.

In the Brand-New Mazda CX-9, this bio plastic is much more widely used, including in the shift panel and door switch panels, and as bezels for the rear-seat air conditioning louver and metre-hood. It is also used as a pillar garnish, the first time it is adopted for a vehicle exterior.

This bio plastic does not require paint and in fact achieves a higher quality piano black surface than previous painted plastics. In addition, being made from plant-derived materials, it has a lower environmental impact than traditional plastics.

Excellent accessibility to second and third seats

Another example of the easy usability of CX-9's interior is the design of the second-row seat, which slides and tilts forward to allow access to the third row with a pull of a lever at the top of the seat back. This function is so simple to use that even a child can easily get in and out.

The clever mechanism that handles this seat action is also lighter than the one in

the previous CX-9 and is an example of the new model's weight savings.

Focusing on door vertical and horizontal clearance, the minimum distance from the hip-point of the front seat to the A-pillar on the front doors is 820mm, which provides sufficient head clearance for 95 per cent of passengers to get in and out comfortably.

Similarly, the hip-point to roof header vertical distance for the second-row seat is greater than the 732mm minimum required for comfortable ingress and egress.

Of even greater importance is the distance between the rear door opening and the second-row seat, when it has been moved forward, to provide access to the third row.

This is where the Brand-New Mazda CX-9's longer wheelbase pays off, as there is 347mm of horizontal spacing between the back of the second row seat and the C-pillar – enough for average 11-year-old third-row passengers to get out while keeping their feet directly below their bodies – for good balance – and without the need to twist their shoulders to fit through the space.

Another consideration is the design of the second-row seat, which has two ISOFIX anchors and three tether mounts. Even if a child seat is belted into that row, access to the third row can be achieved without the need to unfasten the child seat.

Roomy and practical luggage space

With all three rows of seats upright, there are 230 VDA litres of luggage space behind the third row. This is sufficient for two standard golf bags or a typical stroller. And to ease the loading of these items, the rearmost height of the load floor is only 805mm.

When more luggage space is needed, the third row seats fold individually with the release of a single latch on each seat. This produces a total of 810 VDA litres of space, up to 1,282mm long.

Moreover, the sides of this space are upholstered to extend CX-9's high-quality feel even in the luggage area. The upholstered surfaces also help avoid the inevitable scratches that are inflicted on unlined plastic panels.

The second row seat, which is split 60/40, also folds smoothly and quietly using a single lever at the base of the seat back, without the need for tilting the lower cushion.

And when both seats are folded, they produce a flat and nearly horizontal load floor, with no steps and only small gaps reaching to the back of the front seats. The resulting space is 2,158mm long and up to 1,489mm wide – sufficient for a pair of mountain bikes, a large appliance or many other bulky items.

Access to this cargo capacity comes through the rear lift gate, which is available with power operation.

The new electronic mechanism is contained within one of the lift-gate struts, is more compact and is 1.1 kg lighter than a similar unit in the previous CX-9, so there is no intrusion on luggage capacity.

* Without sunroof

The opening height of the power lift gate can be easily adjusted for those with limited overhead clearance in their parking spaces.

Even manual operation of the lift gate is easier, as the pull-down handle has been changed from a recessed opening to a grip-type that is easier to grab and lower.

Comparison of luggage spaces (In-house measurements)

	Brand-New Mazda CX-9	Outgoing CX-9
Cargo volume 2nd and 3rd row down (SAE)	1,641L	N/A
Cargo volume 2nd row up and 3rd row down (SAE)	810L	928L
Cargo volume 2nd and 3rd row up (SAE)	230L	267L

Measurements are up to tonneau cover.

POWERTRAIN

The SKYACTIV engine series has won praise worldwide for providing outstanding fuel economy and excellent dynamic performance at low and mid rpms – the range in which most drivers spend the vast majority of their time.

Mazda's development philosophy is to offer this same winning performance combination across all vehicles lines, achieved through a combination of appropriate engine displacement and maximum technological simplicity, depending on vehicle weight.

Based on this philosophy, Mazda engineers set about developing the first turbocharged SKYACTIV petrol engine, named SKYACTIV-G 2.5T.

At 2000 rpm, it generates 420 Nm of torque – about as much as a conventional 4.0-litre V8.

Such powerful torque at low rpm provides the immediate and effortless acceleration expected of a premium vehicle.

However, unlike a large displacement engine, the SKYACTIV-G 2.5T allows Brand-New Mazda CX-9 to also deliver class-leading fuel economy.

Traditionally, turbocharged engines have suffered from two key issues. The sluggish and non-linear throttle response at low rpms commonly known as turbo-lag contrasts with the *Jinba-ittai* driving experience Mazda aims to offer in every model. Also, some modern turbocharged engines have a reputation for poor fuel economy performance in the real world.

Working to overcome these issues, Mazda engineers created two breakthrough technologies; the world's first Dynamic Pressure Turbo and a cooled exhaust gas recirculation system.

Dynamic Pressure Turbo is a world-first technology that controls the degree of exhaust pulsation depending on engine speed.

The turbo is driven by a constant pressure flow at higher rpms, but the system re-routes the exhaust to take full advantage of the energy in each exhaust pulse and maximises the turbine driving force at lower rpms.

This eliminates turbo lag and provides the powerful and linear acceleration essential for *Jinba-ittai* driving.

The cooled exhaust gas recirculation system reduces the temperature of combustion and allows the engine to maintain the ideal air-fuel ratio (λ=1) over a much wider output range.

Cooler combustion means that the need for fuel enrichment – essentially dumping excess fuel into the engine to cool it – is greatly reduced. For the driver, it means improved real-world fuel economy.

The right size

With a larger vehicle, even one as light and efficient as the Brand-New Mazda CX-9, it can be a mistake to go too small in displacement. Therefore, engineers based their turbocharged engine on the 2.5-litre four-cylinder SKYACTIV engine rather than the 2.0-litre version.

The additional 25 per cent displacement provides superior engine response from rest when turbo boost is unavailable. Furthermore, it offers superior thrust at any speed before the turbocharger becomes effective.

The larger engine also helps develop sufficient power and torque with a maximum of 1.2 bar (17.4 psi) of boost pressure. The combination of greater off-boost torque and moderate boost pressure means a smoother, more linear throttle response at all speeds.

Quick boost at low rpm

The SKYACTIV-G 2.5T engine's large displacement, and ability to tolerate generous boost while maintaining efficient operation, dovetails perfectly with the SKYACTIV principal of using the transmission's upper gears as much as possible to maximise efficiency.

But to make the most of this approach, the engine must be able to quickly develop boost pressure through the turbocharger when the driver demands acceleration – even at low rpm.

Mazda engineers have come up with two coordinated technologies that help the turbocharger spool up quickly.

Mazda calls this combination a Dynamic Pressure Turbo.

The first technology is a 4-3-1 exhaust manifold, most of which is cast integrally with the cylinder head.

All turbochargers are powered by the energy present in an engine's stream of exhaust gases. But at lower rpm or small throttle openings, when the flow of exhaust gas is low, it is also possible to harness the energy in the individual exhaust pulses from each cylinder.

Doing so requires keeping these exhaust pulses separate until they reach the turbocharger so their energy can all be directed at the exhaust turbine.

Mazda engineers have achieved this in an unusual way on the SKYACTIV-G 2.5T engine.

The exhaust from the middle two cylinders (2 and 3) are joined into a single port, while the exhausts from the outer cylinders (1 and 4) each have their own ports.

These three ports come together at the entrance to the turbocharger's exhaust side, where there is always one exhaust pulse arriving every 180 degrees of crankshaft rotation.

Not only does this very compact manifold keep the exhaust pulses separate for maximum energy extraction, it also harnesses each exhaust pulse to suck the residual exhaust from the adjacent ports.

The second key technology is a series of three valves located at the inlet to the turbocharger.

There are a total of six ports leading to the turbocharger at this point – a small one and a large one for each of the three exhaust manifold ports.

At low rpm, when exhaust flow is limited, the three valves close the larger ports and direct the exhaust pulses through the smaller ports. This maximises the pulse energy delivered to the exhaust turbine under these conditions, causing the turbocharger to spin up and deliver boost to the engine more quickly.

Above about 1,600 rpm, when there is more energy in the exhaust flow, these valves open, allowing the exhaust pulses to reach the turbine through ports that are about twice as large. This reduces the resistance to the flow of the exhaust gases and provides a constant pressure flow to the turbine, which is optimal for efficiently producing boost at high rpm.

The result is maximum energy to the turbocharger as well as excellent exhaust scavenging. The compact manifold that places the turbocharger near the engine also minimises exhaust heat losses and facilitates a rapid light off of the catalytic converter.

In addition, even when the engine isn't using any turbocharger boost, this system exhibits a scavenging effect that contributes to the improved response immediately after the accelerator is pressed, just like SKYACTIV-G engines that adopt a 4-2-1 exhaust system.

In practice, this design achieves very quick response. At low rpm, the SKYACTIV-G 2.5T can produce 0.23g of acceleration in half a second and 0.50g within a second.

Some competitive turbocharged engines that also promise low-rpm torque have reactions two or three times as long as the SKYACTIV-G 2.5T engine.

The Dynamic Pressure Turbo design even demonstrates 20-25 per cent quicker response below 1,500 rpm than twin-scroll turbo designs. The result is immediate and strong throttle response similar to that of a much larger naturally aspirated engine.

High compression ratio and cooled EGR

A high compression ratio is a key SKYACTIV principal because it means more efficient combustion and more useful work extracted from every drop of petrol.

However, the combination of a high compression ratio, and useful boost pressure, can result in very high combustion temperatures that can lead to destructive engine detonation.

One way to reduce these temperatures and avoid detonation is to inject additional fuel into the engine during these conditions. While injecting more fuel might seem counterintuitive, any fuel beyond the amount needed to burn with the air in the

combustion chamber simply vaporises and absorbs heat from the combustion process, reducing temperatures.

Using additional fuel to cool the combustion process in this way is very effective, but it's also very inefficient because the additional fuel used for cooling provides no useful power for the car.

It simply makes the needle on your petrol gauge drop more quickly. It is possible to calibrate a vehicle so that it doesn't require such cooling enrichment when testing for the world's various fuel economy standards.

The question is what happens when a real-world driver squeezes the accelerator a little harder than the test cycles require? How much more power can be delivered before the engine starts to enrich the mixture and waste fuel? Turbocharged engines that require fuel enrichment often are the ones that fail to deliver their lofty promised fuel economy figures in the real world.

Mazda engineers had a better idea. Understanding that keeping the combustion process reasonably cool was the key to controlling detonation, Mazda designed a cooled EGR system that effectively controls combustion temperatures.

It works by taking some of the engine's exhaust gas and directing it through a heat exchanger connected to the engine's coolant. This brings the temperature of the EGR gas down from 500°C at peak power to just over 100°C.

By adding enough of this cooled exhaust to comprise up to 15 per cent of the combustion mixture, the peak temperatures in the combustion process are reduced, effectively suppressing detonation.

This substantial reduction allows the engine to have a 10.5:1 compression ratio, which is one of the highest in any production turbocharged petrol engine. And the cooler combustion also yields lower exhaust gas temperatures – by as much as 100°C – which is critical for maintaining catalyst durability – and further reducing the need for cooling enrichment.

As a result, while the SKYACTIV-G 2.5T still employs some enrichment cooling at full power, the additional fuel is not injected until a much higher output level compared with most turbocharged engines.

This means that drivers will be more likely to achieve their promised kilometres per litre ratings, even when they accelerate more aggressively than the mild government test cycles in the real world.

SKYACTIV engine principles

Naturally, there are proven SKYACTIV principles in this turbocharged engine.

Just as the naturally aspirated engines have high compression ratios, so does this SKYACTIV-G 2.5T, compared with other turbocharged engines. All of the mechanical parts incorporate low-friction technologies and engineering.

The direct fuel-injection system uses six-hole, side-mounted injectors operating at 200 bar (2900 psi) to inject a fine spray of fuel that collaborates with the carefully designed cavity piston and tumbling airflow to achieve rapid and efficient combustion.

The engine's intake and exhaust camshafts have variable timing with a wide range of adjustment – 74°C and 50°C, respectively – to allow the engine to operate in a very efficient Miller Cycle mode when low power output is required.

In addition, it has low-restriction oil passages and a two-stage oil pump to reduce the energy needed to drive the oil pump at low rpm and light loads, as well as low-friction and lightweight internal components to improve the engine's mechanical efficiency.

The pistons, connecting rods, and engine block are reinforced to cope with the additional pressure and temperature in the turbocharged engine. The engine also employs oil jets to cool the underside of the pistons during periods of high output, along with an oil/water heat exchanger to control oil temperature.

Useful performance for the real world

The net result of these strategies is an engine that behaves and feels much like a naturally aspirated engine displacing about 4.0 litres.

That means 420 Nm of torque developed at a low 2,000 rpm and 170kW of power at 5,000 rpm. That's more torque at lower rpm than any of its V-6 or turbocharged four-cylinder competitors can muster.

More importantly, the engine responds immediately to gas pedal input and delivers its torque in extremely linear fashion.

As a result, whether the driver steps into the accelerator by 50 per cent at 25 or 90 km/h, the Brand-New Mazda CX-9 responds quickly. And its combination of response and acceleration is better than any of its competitors – and that includes some with much larger and more powerful naturally aspirated engines.

Another way of looking at this is to compare the available passing power available between the old and new CX-9s. To cruise at 90 km/h on a flat road requires about 13kW of power in the new CX-9 with FWD (the previous model required about 3kW or more).

This reduction is consistent with the SKYACTIV philosophy of engineering a more efficient car in general, not just a more efficient engine.

If the driver needs to accelerate smartly at 90 km/h and wants to apply 70kW to the wheels, the old CX-9 needed to downshift from sixth to fourth gear. The new model can easily generate 70kW while remaining in sixth, making for smoother and much more relaxed performance.

At the same time as it delivers this enhanced, real-world performance, the Brand-New Mazda CX-9 matches the acceleration times of its predecessor while delivering about 15 per cent better overall fuel economy – as much as 30 per cent better at low speeds.

Moreover, this improvement is as apparent in the real world as it is on the various test cycles. And the engine was also designed to maintain its efficiency when operated on regular-grade petrol.

SKYACTIV-DRIVE automatic transmission

The SKYACTIV-G 2.5T engine's torque-rich output is routed through the latest version of Mazda's SKYACTIV-Drive automatic transmission.

This transmission has six speeds and was designed to combine the smooth operation of a conventional automatic transmission with the efficiency of a twin-clutch gearbox.

To make this work, the transmission has a torque converter with a smaller torque converter blade, a large multi-plate lockup clutch and an effective damper to reduce torsional vibrations.

When starting from rest, its torque converter provides the seamless launch and torque multiplication that insures a smooth getaway.

Once rolling, the torque converter locks up when CX-9 is traveling at a mere 8 to 13 km/h, unlocking briefly only during shifts.

On the United States EPA city test, the transmission is locked up for 88 per cent of the driving cycle. That compares with only 64 per cent lockup with the transmission on the previous CX-9.

This greater lock-up range and lower mechanical friction combine to improve fuel efficiency is improved by 4 to 7 per cent, and the transmission provides the locked-in-gear sensation of a manual transmission, which feels more precise and direct to the driver in *Jinba-ittai* fashion.

The transmission's shifting behaviour is calibrated to make the most of the engine's torque-rich output by staying in the upper gears as much as possible. This not only achieves the best fuel efficiency, but it also contributes to effortless, premium feeling.

Naturally, the transmission is ready to smoothly downshift when the driver demands greater acceleration. It monitors

not only how far the driver depresses the accelerator but also how quickly the pedal is depressed to more accurately gauge the driver's desire for acceleration and provide the downshifts more quickly.

When called for, downshifts occur in about 0.15 second from most gears and at most vehicle speed. This is quicker than the majority of downshifts in a dual-clutch gearbox particularly when dropping two gears at time.

The transmission also provides a Sport mode for more spirited driving in which it upshifts at higher rpm and downshifts more readily.

In Sport mode, the electronic throttle delivers more torque for a given accelerator pedal depression. Together, these actions make CX-9 feel more energetic and responsive.

For situations when the driver wants full control of gear selection, the SKYACTIV-Drive transmission in CX-9 also offers a manual-shift mode.

To access this mode, the driver moves the shift lever to the manual position sideways toward the driver seat. From there, upshifts are achieved by pulling the gear lever rearwards, while downshifts are selected by pushing the lever forward – the same action used in modern race cars with sequential gearboxes.

Whether equipped with FWD or i-ACTIV AWD, Brand-New Mazda CX-9 uses the strongest version of Mazda's transaxle – well proven when coupled to the SKYACTIV-D 2.2 in various models currently sold – with a torque capacity of 420 Nm. This is comfortably above the SKYACTIV-G 2.5T's output to ensure durability and long life.

i-ACTIV AWD

The prime purpose of All-Wheel-Drive is to keep a vehicle's driver and passengers safe and secure by providing maximum traction when road conditions are slippery.

The challenge is to deliver this benefit while still providing a responsive driving experience and minimising the weight and fuel-efficiency penalties that come with driving all four wheels. To achieve these conflicting goals, Mazda has developed its predictive i-ACTIV AWD system.

This system is similar to the AWD in the Mazda CX-3, Mazda CX-5 and a handful of other global products.

Under most conditions, when CX-9 is operating well within its traction limits, the system sends most of the powertrain's output to the front tyres, which is the most efficient mode of operation.

However, when the system determines that the driving conditions might be approaching the front-drive traction limits, it begins to divert power to the rear wheels.

The mechanism for distributing this power is conventional. From the output of the transmission, the power goes to a front differential and then to the front wheels. An additional output shaft goes to an electronic clutch that is connected to a drive shaft leading to the rear differential. The powertrain management computer can signal this clutch to lock partially or fully as conditions dictate.

The trick is to accurately determine the road and driving conditions and use the system to distribute the front/rear torque split to provide the best mix of stability, responsiveness and efficiency.

In this regard, the i-ACTIV AWD system is most unconventional. It relies on two streams of information provided by 27 different sensors to determine how the power should be allocated.

First, i-ACTIV AWD relies on a network of sensors to gauge the traction on the road surface. The inputs include individual wheel speed, power steering motor current, outside temperature and even windshield wiper operation.

The system also monitors the driver's demands, determined by monitoring the angle and effort being applied to the steering wheel, the accelerator position, brake pedal pressure, and vehicle speed and acceleration.

The system estimates the available traction on the road by comparing the driver's inputs with some of the measured vehicle parametres.

For example, at a given speed and steering wheel angle, the system knows how much motor torque is required by the electric power steering system on dry pavement.

If the motor torque is lower than this predicted value, it suggests that traction is reduced. Information about outside temperature and whether the surface is wet (implied by windshield wiper use) further refines this predictive algorithm.

Similarly, the system can detect minute amounts of slip during acceleration and braking that the driver can't even feel. If such slip is detected when the value of the acceleration or deceleration suggests that there should be no slip, that's another clue that traction is reduced.

By combining these gauges of the available traction on the road surface – which are calculated 200 times every second – with the traction needed by the driver's demands, the i-ACTIV AWD system determines where it should send the powertrain's output and thus prevents wheel spin before it can occur.

The torque split can vary from a baseline of 100 per cent to the front axle to 50:50 to the front and rear, which occurs when the electronically controlled coupling is fully locked.

In typical low-traction conditions, 20 to 30 per cent of the power might be sent to the rear axle to preclude front-wheel slip. Even on dry pavement during hard driving, some power might be sent to the rear to limit understeer.

The new CX-9 also has brake-activated traction control to assist i-ACTIV AWD under the most slippery or inconsistent conditions. The traction control can apply individual or multiple brakes to control any wheel spin that might occur when there is a large difference in traction between the left and right tyres.

And in typical SKYACTIV fashion, this AWD system has been designed for efficiency by using structurally optimised die-cast aluminum for the various gear housings.

Carefully designed fins provide sufficient cooling for the differential without creating excessive aerodynamic drag.

Gear tooth analysis was used to correctly size and shape all of the internal gears. Even internal oil flow is kept to a minimum by careful design.

As a result, i-ACTIV AWD weighs 27.5kg less than the AWD system on the previous CX-9 and incurs a smaller penalty in fuel efficiency.

i-stop idling stop system

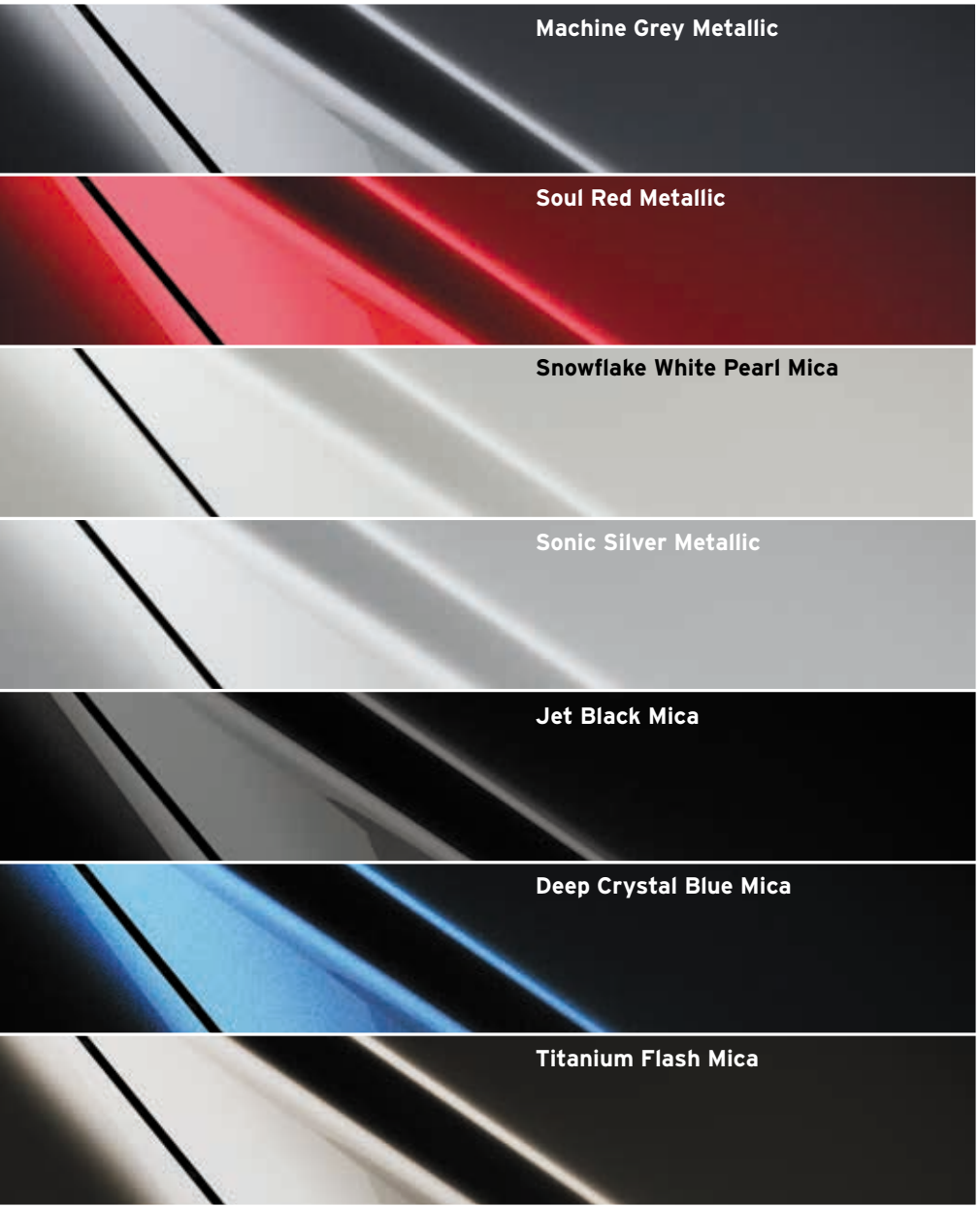
Brand-New Mazda CX-9 is available with Mazda's i-stop idling stop system, which delivers smooth stopping and starting along with excellent fuel economy.

i-stop automatically stops the engine when the driver presses the brake pedal and stops the car.

When subsequently releasing the brake or engaging the clutch to move off again, fuel is injected directly into the engine's cylinder and combusted to automatically restart the car in approximately 0.35 seconds.

COLOURS

A choice of seven contemporary colours:



Interior variations:

Sport: black cloth

Black cloth trim

Touring: black leather

Black leather trim

GT: black leather (natural stone leather optional)

Natural stone leather trim

Azami: natural stone leather option
(black leather standard)

BODY & CHASSIS

DRIVING DYNAMICS: *JINBA-ITTAI*

Mazda's philosophy of driving dynamics is called *Jinba-ittai*, a Japanese phrase meaning "horse and rider as one."

This is the reason why Mazdas are engineered with excellent steering feedback and precise chassis control. In keeping with that philosophy, the Brand-New Mazda CX-9 has been designed to provide both responsive and reassuring handling.

More specifically, in CX-9's context, *Jinba-ittai* means great agility at low speeds combined with secure stability at high speeds and confident steering feel.

Compared to the previous CX-9, which was already one of the most satisfying family SUVs to drive, this new model reacts more immediately to steering inputs, while maintaining a very linear and natural relationship in all of its control responses.

At the same time, Mazda engineers improved the New Generation CX-9's ride comfort and reduced its noise, vibration, and harshness (NVH) on a variety of road surfaces in order to provide a more premium feel.

This required improvements in the bending and torsional stiffness of the structure as well as reinforcements to cope with new, more rigorous crash tests around the globe.

Normally, the measures taken to achieve these ends would add weight, but demands for improved fuel economy required that these comfort and safety improvements be achieved a long with a substantial weight reduction.

MAZDA'S LIGHT, RIGID SKYACTIV-BODY

Brand-New Mazda CX-9 adopts the SKYACTIV-BODY. It introduces innovations in structure, construction methods and materials that achieve high levels of performance in three contradictory areas: collision safety, rigidity and light weight.

The SKYACTIV-BODY for the new CX-9 inherits the architectural traits implemented on Mazda CX-5 in 2012.

Included are the use of straight beams wherever possible, continuous framework that makes the individual sections function in harmony, and effective positioning of high-tensile steel.

The main structural members of Mazda CX-5 and Mazda CX-9 show a clear family resemblance. In particular, longitudinal structural members that run from the firewall rearwards are present on all three models.

But in the new CX-9, these members are straighter with fewer kinks than before, producing a more efficient structure. This not only provides strong crash resistance but also a rigid foundation for the rear suspension and the body panels.

Additionally, CX-9 benefits from three additional cross members added to the rear part of the structure.

The upper rear suspension mounts have straighter and more-efficient load paths, and continuous ring structures that encircle the body increase structural rigidity and improve side-impact safety.

In areas where crash forces must be resisted, the structure is designed to use its multiple load paths to deflect and dampen impacts. In fact, even the rails for the second-row seat and the frame for the third-row seat are tied into the structure to add strength.

In addition to making the structure more efficient, Mazda's exacting computer modeling made it possible to employ a greater percentage of high-tensile materials where these materials provided the greatest benefit.

The overall use of high-tensile steel (HTS) in the structure has increased from 54 to 62 per cent. Moreover, this HTS usage is skewed more towards the strongest alloys.

For example, on the new CX-9, the strongest steel used has a yield strength of 1800 MPa (MegaPascals), while its predecessor maxed out with 1500 MPa material.

The trend continues with 980 MPa steel increased from zero to 11 per cent, 780 MPa from three to seven per cent and 590 MPa from 15 to 27 per cent. So not only does the new CX-9 use more HTS, it uses a greater proportion of the highest strength varieties.

These materials are concentrated in the areas around the doors, B-pillars and the underbody crossmembers in that area, where they play a key role in maintaining passenger cell integrity during the small-overlap frontal crash test and keeping passengers as safe as possible in side-impact accidents.

All told, the Brand-New Mazda CX-9 has a torsional stiffness of 33,000 N-m per degree*, which is about 65 per cent higher than its predecessor.

* Based on Mazda in-house measurements.

Weight reduction

In keeping with SKYACTIV principals for performance and efficiency, Mazda engineers designed the Brand-New Mazda CX-9 with a goal of shaving a substantial amount of weight compared to its predecessor.

In other SKYACTIV vehicles, engineers have been tasked with reducing weight by approximately 100kg with every vehicle versus its immediate predecessor, including the already light All-New Mazda MX-5.

With CX-9, the greater size allowed the engineering team to use a higher goal of more than 130kg. They exceeded their goal.

The front-drive version's overall weight has dropped approximately 90kg compared to the previous model. More than three-quarters of it is on the front axle. That more-than-proportionate decrease on the front is an important factor in achieving the new CX-9's quicker steering response, improved handling and reduced understeer.

These numbers include sound deadening being added into the floor of the new CX-9 in order to achieve class-leading NVH – by far the greatest amount ever added to a Mazda vehicle.

An aluminum bonnet and aluminum front guards save some part of the weight reduction on the front axle. The switch to the SKYACTIV-G Turbo engine saved even more, which not only balanced the vehicle but improved chassis dynamics.

An overall weight reduction of more than 130kg was achieved on the i-ACTIV AWD CX-9, in spite of compliance with more strenuous crash standards and the creation of a much stiffer body structure.

The reduced weight made it easier to achieve superior fuel economy. And with the majority of the weight coming off the front axle, handling and steering response also improved.

NVH improvements

In any vehicle that seeks to provide customers with a premium driving experience, reducing noise, vibration and harshness is critical. For the Brand-New Mazda CX-9, the goal for engineers was to achieve one of the quietest vehicles in its segment.

At the same time, however, Mazda wanted the engine to have a bit of a muscular rumble in the mid-range and an eager revving sound at high RPM to enrich the driving experience.

A primary focus was to reduce the noises that no one likes. In most vehicles, noise at high speed comes from the air flowing around the car as well as the sound of the tyres on our roads. Much of that tyre noise is heard through the floor panels.

To better insulate the floor, the new CX-9 uses thicker sheet metal and the firewall is also thicker to help reduce front-tyre and engine noise.

Underneath the floor, the plastic panel that makes underbody air flow smoother has been changed from a solid to a porous material that reduces noise. Inside, a 24kg sound deadening floor mat has been installed in three pieces, as it is too heavy to be fitted as a single unit.

Wind noise was targeted in the Brand-New Mazda CX-9 by various measures. The first step was to reduce the gaps between body and doors.

Additional seals have been added between the front and rear door vertical gap near the outer surfaces at key wind noise areas. The seal clearances are smaller to ensure continuous contact. And the innermost seal is now attached to the body and contacts directly with the door sheet metal rather than the trim.

The new CX-9 also gets 4.8mm thick sound-insulating glass – two sheets of glass sandwiching an isolating layer – in the front doors and windshield. And the gaps between the window glass and their seals were reduced throughout the vehicle.

With this quieter cabin, conversation in Brand-New Mazda CX-9 is easier than in any previous Mazda.

In addition, to reduce road noise on rough road, not only did engineers use tuned-mass dampers to quell any suspension vibration – which could make body panels radiate the noises in the interior – but they used computer-aided analyses to find out the efficient countermeasures that prevent the body panel vibration from radiating the noises.

As a result, interior noise levels on a rough road course at 100 km/h were reduced by about 2.5 dB compared to the previous model.

The same thinking was applied to the powertrain mounts to reduce the vibration that could be transferred to the body. While reducing unwanted noises and vibrations, engineers also tuned the audio system to enhance some active engine-sound.

Further improving NVH performance, even the seats have been looked at to help reduce vibrations.

The second row seat rails have been spread farther apart to make their

attachment to the body more solid. The seat frame is now simpler with fewer, but more rigid, parts to both save weight and make the assembly more rigid.

A more rigid steering column also reduces vibrations transmitted to the steering wheel.

Any remaining vibrations are further reduced by mounting the airbag in a way that it can serve as a tuned-mass damper. The reduction in vibration at certain frequencies is substantial.

Aerodynamics

Reducing aerodynamic drag is important for maximising fuel economy, but low drag is but one of several aerodynamic priorities, which also include stability, cooling airflow, and wind noise.

In addition to creating a shape that meets all of these goals, a vehicle's body must also look good and encompass a large and useful interior volume.

Mazda's approach to meeting these conflicting goals was to use sophisticated Computational Fluid Dynamics (CFD) models to optimise the CX-9's body for aerodynamic purposes.

Naturally, these models are then verified with actual wind tunnel tests and at Mazda, the computer predictions are within three per cent of the measured results. An overnight computer run can now replace three days of intensive wind tunnel testing.

Modeling showed that Mazda's "aerodynamically efficient ground line" thinking can improve the drag coefficient.

This approach takes the underbody airflow and creates a swift updraft as it exits the rear. This improves the flow across the top and bottom of the body, while also reducing turbulence.

Minor changes to controlling swirl from the trailing edges of the body can also

have a large effect without comprising the look and shape of the automobile. The same goes for airflow along the body sides. In fact, in these areas, advances made with Mazda3, Mazda6 and Mazda CX-5 paid dividends in shaping CX-9.

Thanks to this careful development, the drag coefficient of the new CX-9 was reduced by nine per cent compared with its predecessor, despite having slightly wider tyres and a greater cooling requirement for its turbocharged engine.

HIGH-PERFORMANCE, SKYACTIV-CHASSIS

Suspension

To achieve the goals of *Jinba-ittai*, the Brand-New Mazda CX-9's suspension uses a strut geometry in the front and a multi-link layout in the rear.

In concept, this layout is similar to the suspensions on the Mazda6 and Mazda CX-5, but the components have been changed in numerous ways to improve their performance and match the dimensions of the new CX-9. For example, the control links in the front and rear suspension are longer to provide the track increase needed for CX-9.

To improve high-speed stability, the castor angle in the suspension has been doubled from 3.4 to 6.8 degrees. More castor also increases camber gain during cornering, which helps the tyre respond faster.

In the rear suspension, a relocation of the suspension links increases toe-in during cornering, improving steering response.

These benefits are further enhanced by CX-9's new tyres, which provide greater cornering force for a given slip angle and tyre load, providing both an improvement in handling and emergency manoeuvre stability.

At the same time, there are several changes designed to improve CX-9's ride comfort.

In the front suspension the rear bushings in the control arms are now liquid-type to provide a better combination of stiffness and compliance.

A new geometry is used to reduce the side force in the front struts, which helps to reduce friction in the strut and improve ride. New bumps stops also help improve ride over large bumps when CX-9 is heavily loaded.

In the rear suspension, the forward suspension pivot has been raised 35mm and the rear lateral links moved rearward.

These changes not only achieve the increase in toe-in described above, but also allow the tyre to move back farther when hitting a bump, reducing the shock sent to the body. The new geometry also provides more anti-lift during braking, helping to keep the body more level.

The rear dampers are also now more upright for better control. By shifting them from 12 degrees away from the ideal angle to only six degrees away, the dampers are more directly aligned with the suspension motion and more effective. At the same time, they are slightly softer for better ride comfort without any handling sacrifice because of the overall improvements in steering response.

These dampers, which are twin-tube gas-charged designs, also receive numerous detail improvements.

The front dampers benefit from new oil seals and bushings to optimise the friction characteristics and it makes the suspension movement smoother.

Thanks to this, CX-9 offers high-quality ride feel even when driving on a road surface that gives minute vibration to the vehicle.

In the rear, the dampers have faster-acting foot valves that react more quickly to damp motions and, therefore, allow softer peak damping to improve ride.

Both of these changes serve to reduce the subtle vibrations that can make a road feel grainy rather than smooth.

Steering

The Brand-New Mazda CX-9 uses a recalibrated version of the electric power steering used on the Mazda6 and Mazda CX-5.

The goal was to provide easy and comfortable operation while providing the responsiveness and feedback that is part of Mazda's *Jinba-ittai* philosophy.

The method of achieving these goals is to reduce the system's on-centre friction and improve sensor accuracy to shorten the time needed for the power assist to respond to driver inputs. Both of these actions reduce the "sticky" feeling common on many electric power steering systems.

Another key goal was to deliver a quicker and more natural steering response. Some of this was achieved by the more responsive suspension performance. Combining this with the recalibrated steering, the new CX-9 requires less steering wheel motion for a given level of cornering response, and the steering motion and effort also stays more linear when CX-9 is near its cornering limit.

Though the Brand New-Mazda CX-9 has a longer wheelbase and slightly larger diameter tyres, it was important to maintain maneuverability.

The solution is a steering rack with longer travel so that the wheels could turn farther. The compact four-cylinder engine was also a key factor in making this work, as the short overall engine and transmission provided space for greater wheel lock.

Brakes

The Brand-New Mazda CX-9 has four-wheel disc brakes with dual-piston sliding calipers in front and single-piston calipers in the rear.

The system uses 320mm x 28mm ventilated rotors in front and 325mm x 11mm solid rotors in the rear, which are about the same size as they were on the previous CX-9. However, since the new CX-9 is lighter, the brakes are effectively more powerful.

CX-9 comes standard with anti-lock brakes (ABS) to minimise stopping distance and maintain control even on slippery surfaces.

The system is coupled with Electronic Brake-force Distribution (EBD) to dynamically apportion braking power to the front and rear brakes to match the stopping conditions.

Electronic Brake Assist (EBA) is also standard to help a driver come to the shortest possible stop when the system detects a sudden braking action.

Detail changes in the brake booster characteristic, the master cylinder diameter and the brake pedal leverage were made in the braking system to improve the responsiveness and linearity of the system in keeping with the philosophy of *Jinba-ittai*. The combination results in a stiffer feeling brake pedal with less lost motion during initial application.

A detail change in the design of the brake rotor – supporting the rotor from the outer face of the disc rather than the inner face – has led to reduced heat deformation. The result is less vibration and judder felt in the steering wheel and floor during hard braking usage.

One new feature of the braking system on the new CX-9 is Trailer Stability Assist. This system can detect any wagging that might develop when towing a trailer and individually applies the brakes to quickly and smoothly stabilise the trailer.

SAFETY

Mazda Proactive Safety aims to minimise the chances of an accident occurring by expanding the range of conditions in which the driver can operate the vehicle safely and helping to identify potential risks early.

Mazda is pursuing a three-step approach toward this goal.

The first step is to provide an optimum driver environment with good visibility, well-positioned controls, easy-to-read instruments and minimal driver distractions. These conditions are also in perfect harmony with the *Jinba-ittai* driving philosophy.

The second step is a portfolio of active safety features, which Mazda calls i-ACTIVSENSE.

These are designed to warn the driver gradually as a potentially dangerous situation is developing and help the driver avoid problems and collisions.

Finally, there is passive safety, which includes the structural design and safety features designed to help a vehicle's occupants survive a crash if one should occur.

The optimum driver's environment and the passive safety measures will be available in all Brand-New Mazda CX-9 grades. However, the availability of the i-ACTIVSENSE technologies will vary by geographical region due to differences in road conditions, driving customs and legal requirements.

i-ACTIVSENSE

Advanced Blind Spot Monitoring (ABSM)

Brand-New Mazda CX-9 features Advanced Blind Spot Monitoring system (ABSM).

This employs a 24 GHz radar unit on each side of the car to detect vehicles in the adjacent lanes.

It differs from previous Mazda systems in that it not only determines when a vehicle is in a potential collision area – within 10 metres of the vehicle – but it also is on the alert for potential collisions from overtaking cars farther away.

It does this by detecting vehicles as much as 50 metres behind the car and measures their speeds. If the system determines that the speed of the vehicle will bring it into the CX-9's danger zone (within 5.5 seconds of its then position), it will display a warning to not change lanes.

ABSM also incorporates Mazda's Rear Cross Traffic Alert (RCTA), uses sensors at the rear of the body that look sideways to detect nearby and approaching vehicles that might not be visible when backing out of a parking spot.

Mazda Radar Cruise Control (MRCC) with stop & go function

Brand-New Mazda CX-9, in the Australian market, is the first Mazda to adopt the latest version of Mazda Radar Cruise Control (MRCC).

This system has the ability to bring the car to a complete stop in traffic, then within three seconds of the stop get going by itself once traffic starts to move.

If a complete stop lasts longer than three seconds, the car will wait for the driver to press the resume button, or tap on the accelerator, before taking off again.

This uses both millimetre wavelength radar as well as a laser infrared – LIDAR – sensor to monitor the speed and distance of cars in front of the car at both long and short range.

The MRCC will brake smoothly at up to 0.4g of deceleration to maintain a reasonable distance behind a vehicle braking at up to 0.3g. Should more rapid braking be required to avoid a collision, the system flashes a red light on both the dashboard and the Active Driving Display (HUD) to signal the driver to brake harder.

After bringing CX-9 to a complete stop in traffic, about four metres behind the car in front, the MRCC will accelerate smoothly when the vehicle ahead of it begins to move. It will maintain a safer following distance while accelerating to the previously set speed on the system.

It is also possible to turn off all of the system's automatic functions and revert to conventional cruise control should road conditions make this more desirable.

Lane-keep Assist System (LAS) and Lane Departure Warning (LDW)

Lane-keep Assist System (LAS) is also available on CX-9 to warn the driver when the car is drifting out of its lane and actively steers the car to keep it centred in its lane.

The system uses a camera forward of the inside rearview mirror to identify the lane markers, and determines CX-9's position between them.

With the basic Lane Departure function, the system signals the driver when CX-9 has drifted enough to substantially reduce the distance between the side of the car and the edge of the lane.

The initial response is to apply a slight torque on the steering wheel toward the centre line of the lane. If CX-9 drifts farther away from centre, the torque increases gradually.

When the side of the car reaches the edge of the lane, a separate Lane Departure Warning (LDW) system takes over and vibrates the steering wheel as if CX-9 had encountered a raised ripple strip. An audible warning can also be activated if desired.

Also, to prevent unnecessary warnings, the system deactivates when it detects very hard driving or notices that the driver is taking the "racing" line – start outside, apex inside, exit outside.

To keep the system operating, the driver must keep a hand on the steering wheel. If no hand is detected, the system will alert the driver and turn off.

Adaptive LED Headlights (ALH)

ALH is a New-Generation headlight system that improves visibility at night and helps the driver better recognise potential hazards when driving at night.

The system combines Mazda's Glare-free High Beam, which controls the illumination coverage of the high beams, and Wide-range Low Beam, which expands the area of illumination beyond that of previous systems.

The ALH system's Glare-free High Beam is the first among Japanese carmakers* to employ an array of LEDs divided into four blocks, each of which can be independently controlled.

All four blocks of the high beams are normally illuminated while driving, but when the forward sensing camera detects the headlamps of oncoming vehicles or tail lamps of vehicles traveling ahead, the appropriate block or blocks of LEDs are turned off to control the range and direction of illumination.

This makes it possible to prevent blinding the drivers of other vehicles, while still maintaining the long-distance illumination that high beams can provide.

The Wide-range Low Beam also uses part of the lighting signature as headlights. By lighting the area seen between the A-pillars and door mirrors that are not covered by conventional headlamps, the system improves visibility at intersections when driving at night.

The system also employs Highway mode, which helps the driver check conditions on and around the road ahead when driving at highway speeds.

The motor of the auto-leveling function automatically shifts the vertical aim of the headlamps up and down, which provides visibility at greater distances and helps the driver recognise street signs and obstacles sooner.

*As of October 2015, according to in-house data.

Distance Recognition Support System (DRSS) and Forward Obstruction Warning (FOW)

DRSS uses measurements from the millimetre wavelength radar to display the distance between CX-9 and the vehicle ahead as a five-step display within the metre cluster.

If CX-9 gets too close to the vehicle ahead, the area between the icon representing the vehicle ahead, and the icon representing CX-9 on the display, flashes and the system encourages the driver to adjust vehicle speed.

If the distance between the vehicles continues to narrow and the risk of collision increases, FOW function sounds an audible alert and displays a visual warning to prompt the driver to take evasive action.

Driver Attention Alert (DAA)

This system is designed to prevent accidents caused by fatigue or decreased alertness. It monitors the driver's condition and suggests a rest stop if the driver's behaviour indicates fatigue.

DAA keeps track of the speed and angle of steering wheel operation, and vehicle speed, along with information from the forward facing camera to determine if the driver is performing properly.

The system turns on automatically after the vehicle exceeds a speed of approximately 65km/h. It then learns how the driver performs for the first 20 minutes or so, before fatigue is likely.

Afterwards, if the system detects a significant change in the driver's behaviour, a mark recommending a rest break along with the message "Time for a break" appears in the instrument cluster, and a soft audible alert also sounds.

The display and alert are also presented to the driver after every two hours of continuous driving.

Smart City Brake Support [Forward/Reverse] (SCBS F/R)

The system detects vehicles or obstacles in front or behind the car and helps reduce the amount of damage in the event an accident cannot be avoided when driving slowly around town or in congested traffic, or when backing up.

Operating at speeds between approximately 4km/h and 30km/h when driving forward, the near-infrared sensor

mounted on the windshield is capable of precision detection at short distances of up to approximately six metres, and is effective in rainy or backlit conditions.

When in reverse, the system operates at speeds between approximately 2km/h and 8km/h, using ultrasound sensors mounted on the rear bumper to detect obstacles approximately two metres behind the car.

When the system detects a vehicle or other obstacle, and determines that a high risk of collision exists, it automatically applies the brakes to help prevent impact when in forward gear or reduce impact in both forward and reverse gear.

Smart Brake Support (SBS)

When the Brand-New Mazda CX-9 is travelling at speeds between 15km/h and 160km/h, SBS uses milliwave radar and a forward sensing camera to detect vehicles on the road ahead, and helps avoid collisions or minimise damage by sounding an audible alert and operating the brakes in a two-stage pattern.

When SBS recognises the danger of a collision, it first sounds an alert while it begins to pressurise the brakes.

If CX-9 draws any closer to the vehicle, SBS applies the brakes lightly as the preliminary braking stage.

If the situation becomes one in which the vehicle can no longer avoid a collision, SBS applies greater brake pressure as the secondary braking stage with the aim to mitigate damage.

In addition, if the driver applies the brakes in the meantime, SBS delivers greater braking power than that of the driver's pedal operation alone to decelerate as quickly as possible.

This contributes to avoiding a collision or to mitigating damage if a collision does occur.

Passive safety

Should a collision occur, the Brand-New Mazda CX-9 is designed to provide as much crash protection as possible.

One of the goals of the new model was to achieve top international safety ratings in the markets where it will be sold.

The key to good crash performance is a strong structure that is designed to absorb energy in the front, sides and rear impacts while keeping the passenger cell as intact as possible.

The SKYACTIV-CHASSIS section of this document outlines the measures taken to make the Brand-New Mazda CX-9 stronger and far more rigid than its predecessor by using careful design, relentless optimisation and high-tensile steels. Here are some additional measures taken to improve passive safety.

In order to make the passenger cell as strong as possible, the main longitudinal and lateral frames are very straight to provide direct load paths.

In the front of the CX-9, there are three longitudinal elements on each side to absorb frontal crash energy.

The load paths are designed so that all three are engaged to maximise the energy absorption without transferring too much force into the CX-9's body.

The forward crushable member on one of these frames uses a unique cruciform cross section rather than the usual box.

Although this uses no more material – and consequently weighs no more – than a conventional box section, it does have 12 corners rather than four, and thus can absorb 30 to 40 per cent more energy than its conventional equivalent.

To reduce damage in side impacts, the new CX-9 uses high-tensile steel in the door apertures and stout ring structures that encircle the body at the B-pillar, C-pillar and around the rear hatch.

Furthermore, the bottom sections of the B-pillars are reinforced to provide further resistance to intrusion, and the front and rear door armrests are designed to be crushable to provide further side impact protection.

The spare tyre is angled downward so that if it is pushed forward in a rear collision, it ends below the seat rather than inside the passenger compartment. In addition, both the second and third row seats have strong and rigid, lightweight seatback frames, reclining mechanism and body structure. These minimise the risks of damage to the occupants from cargo sliding forward and maintain the integrity of the passenger compartment in a frontal collision.

The front seats are designed to minimise neck injuries in rear impacts thanks to the design of the seat frame, seatback, as well as the headrest shape and position. In an accident, the occupant's body sinks into the backrest for maximum support.

Brand-New Mazda CX-9 comes with six airbags – two frontal airbags and two large side airbags that cover the hips up to the chest of front seat passengers, and two side curtain airbags that help protect the heads of occupants in all three seating rows.

Three-point seat belts are provided for every seating position and the front and second row belts have pre-tensioners to remove any slack from the seatbelts at the moment of collision, thereby limiting forward motion.

These belts also have load limiters, to loosen the belts gradually in severe collisions to prevent excessive pressure on the occupant's chest.

Two ISOFIX/LATCH anchors with top tethers are provided in the second-row bench seat, while the third row seat on the passenger side also has a top tether.

To protect pedestrians who might come into contact with CX-9, the bonnet and front bumper are designed to absorb shock in order to minimise the damage to the head and legs.

HMI/CONNECTIVITY

DRIVING SAFETY COMES FIRST WITH MZD CONNECT

Customers demand a large variety of electronic functions on modern cars, as well as smooth and easy connectivity to their various communication webs. Mazda created a solution to provide these functions while being careful to let the driver focus on driving by limiting visual, cognitive, and manual distractions. Mazda calls its approach the Heads-up Cockpit concept.

This concept dovetails neatly with the concept of *Jinba-ittai* in keeping the driver focused as much as possible on the road by displaying information that is related to driving on the driver's side of the cabin – on the instrument cluster and Active Driving Display.

Entertainment related functions, on the other hand, are on the central 7- or 8-inch LCD screen. The entry level Sport gets the 7-inch screen, while all other grades get the larger 8-inch screen.

This central screen is only 740mm from the driver's eyes and 15 degrees down from a horizontal view to minimise how far the driver's eyes must move to read it.

Mazda also paid great attention to the design and size of the font displayed on this screen as well as the amount of data, determining that seven lines of text is the optimal number to display.

Furthermore, research showed that for maximum legibility, the optimal spacing between the lines should be 120 per cent of the font height.

To control this display, CX-9 uses a central knob called the multi-function commander.

By rotating, pressing, and toggling this knob, the user can control the functions on the central screen while keeping his or her body and eyes in a normal driving position.

Unlike a touchscreen, the user doesn't have to look at the commander while operating it, so it requires less visual and manual distraction.

The commander is surrounded by five buttons to provide shortcuts to four commons screens as well as a back button.

The system is intuitive to operate and eliminates the sea of buttons found on so many modern cars.

Active Driving Display

CX-9 is the first Mazda with a full colour Heads-Up Display (HUD) projected on windshield.

Called the Active Driving Display, it projects key driving and navigation system information on the windshield just above the instrument cluster.

This 384 x 192 pixel, full-colour display is wider than on previous models and designed to project an image between 1 and 4 degrees below the driver's horizontal line of sight and at a focal distance of 2.5m.

This display is emblematic of Mazda's Heads-Up Cockpit philosophy of reducing distractions by helping the driver to keep their eyes on the road and minimises the change in focus needed for the driver to look from the HUD to the road.

It can display information from the navigation system, such as directions, lane guidance, and street name.

It can also show the prevailing speed limit, tachometre, the operation of Advanced Blind Spot Monitoring and Mazda Radar Cruise Control and safety information such as braking and collision warnings.

Designers carefully considered how this information should be presented and came up with a consistent format in which road sign information, such as the speed limit, would always be displayed on the inner side of the display, while the street name would always be on the top and the vehicle information, such as the speed and the cruise control system's set speed, would be at the bottom.

Reconfigurable instrument display

In keeping with the goals of simplicity and easy legibility, CX-9 uses a classic, symmetrical, three-dial instrument cluster with the speedometre in the middle and the tachometre on the left, which includes a gear position indicator at the bottom.

In the third dial on the right is a reconfigurable display that can provide a variety of information.

On the upper trim levels, this dial contains a 4.6-inch, 430 x 430 pixel LCD display.

The bottom slice of the display always shows the following information: fuel level, a distance-to-empty estimate, the outside temperature and the main odometre. However, the upper two thirds of the display can perform several different functions.

The display can show either trip computer A or B, each with its own distance measurement and average fuel economy calculation. With this display, there is also a gauge showing instantaneous fuel economy at the top. The driver can also select to display a compass.

On entry-level models, a smaller, simpler monochrome display is standard. This display is also selectable and can provide information such as coolant temperature, cruise control set speed, current and average fuel economy, distance-to-empty, trip odometre distance and compass functions.

MZD Connect

The Brand-New Mazda CX-9 is designed to keep passengers connected – even those in the rear seats.

For the first time, Mazda is equipping CX-9 (all grades bar the Sport) with rear seat USB ports for charging phones, tablets and other small electronic devices.

The USB ports are located in the rear armrest, accessible to passengers even while belted in for safety.

For standard phones, CX-9's electronics systems allow for 2.1 amps of charging current. Additionally, there are two USB ports in the centre console that allow driver and passengers to power their electronic devices.

MZD Connect is a car connectivity system that makes it easier to take advantage of functions including Internet connectivity and access to social networking services that today's customers consider essential, even when in transit.

It responds to a wider variety of needs by greatly improving the convenience of functions that require Bluetooth® connectivity, such as hands-free phone operation, reception of short text messages, and Internet radio including Aha™ by HARMAN.

By supporting the ongoing evolution of communications equipment on both the hardware and software levels, this innovative platform ensures that customers always have access to the latest services without swapping out any hardware.

Audio features

The audio system is capable of receiving terrestrial AM/FM broadcasts with support for Digital (DAB+) coverage in High grade models. When connected to a smartphone, the system also allows access to web content such as Aha™.

Aha™ is a cloud-based platform operated by HARMAN that allows customers to access more than 120,000 broadcasts from around the world, including BBC and CNN, specialised programming of various genres and broadcasts from distant locations.

In addition, the service offers downloads of free audiobooks. When using Aha™, the system can read aloud the latest tweets in the customer's Twitter timeline. It can also read aloud the latest Facebook news feed entries, and allows the customer to "like" entries or post audio messages using the Shout function.

The web content offerings also include Stitcher™. This on-demand service provides many talk shows, music programs and podcasts from around the world. Users can enjoy listening to their favorite content whenever they please.

CX-9 also provides Pandora® radio service. Subscribed users can create personalised stations and listen to continuous music, or search for similar songs for automatic playback. As a result, they can enjoy listening only to music that matches their preferences while driving.

Communication features

In addition to providing hands-free telephone operation and access to one's contact list, the Brand-New Mazda CX-9 can also receive short text messages and display a list of sender IDs.

When the car is in motion, the text-to-voice function can read the contents of email aloud.

In addition, it is possible to reply to the sender by choosing from a selection of preset messages.

Navigation features

The navigation system uses data from an SD card and can display the current location on a map, or display routes to take to a target destination.

When a smartphone is connected, the customer can search the Internet for places they want to go, or use content on Aha™ such as Yelp's guides to check out popular spots, and set those locations as destinations.

BOSE® Premium Sound system

The latest BOSE® audio system was engineered to sound great when playing music from any of the wide variety of sources used today.

To achieve these goals, the system comes with a total of 12 speakers, most of which have extended low-frequency performance, allowing better crossover points for flatter frequency response.

This provides particularly strong imaging and clear, well-defined bass – that is, an accurate reproduction of a full range of music, from the highest to the lowest tones.

Combined, the experience is meant to invoke a live performance, as if the listeners were sitting in front of an orchestral pit or at a rock concert, even from the rearmost seats.

What allows that to happen is a new dual bass source, including a super woofer speaker called Spare Tyre Base Box® (STBB) because it is located in the spare tyre wheel well. It's fed by a newly developed 1000NXT amplifier.

Additionally, front occupants are treated to upgraded 9-inch Nd® woofers in each of the front doors.

Also, speakers for mid to high range are allocated around the instrument panel, one in the middle and two positioned at each side of the instrument panel to create vivid sound-staging.

New silk-dome tweeters located at both sides of the instrument panel, outer side of the med-to high speakers also help generate clarity and expansiveness of sound.

Here is the complete speaker allocation:

- One 80mm Twiddler® mid/high speaker in the middle of the instrument panel
- Two 80mm Twiddler® mid/high speakers in sides of the instrument panel
- Two 25mm neodymium tweeters, one on each side of the instrument panel
- Two 230mm Nd® woofers, one in each front door
- Two 130mm wide-range speakers, one in each rear door
- Two 60mm Twiddler® mid/high speakers, one in each D-pillar
- One 130mm Richbass® woofer in an 11-litre custom-engineered enclosure in the cargo area, with an integrated amplifier
- One BOSE® digital amplifier under the front passenger seat with nine channels of equalization, AudioPilot® 2 noise compensation technology, Centerpoint® 2 technology and SurroundStage® signal processing.

This audio system was designed to be slim and lightweight, complementing Mazda's "Gram Strategy," yet it carries two additional speakers compared to the premium audio system in the previous CX-9.

The new CX-9's packaging was designed to maximise passenger space while providing the best experience – the ability to enjoy music, podcasts and radio shows – with perfect clarity.

CX-9's audio system had to deliver on all of the principles required by Mazda, and BOSE® stepped up to meet that need.

CX-9 SPECIFICATIONS

POWERTRAIN		2.5L Turbo I4 Petrol FWD	2.5L Turbo I4 Petrol AWD
Bore and stroke	mm	89.0 x 100.0	
Compression ratio		10.5 : 1	
Drivetrain		FWD	i-ACTIV AWD
Emissions standard		Euro stage V	
Engine capacity	cc	2,488	
Engine type		2.5 litre turbo in-line 4 cylinder 16 valve DOHC S-VT petrol (SKYACTIV-G 2.5T) engine with i-stop and i-ELOOP	
Fuel consumption (l/100km)[1]:	Auto (combined)	8.4	8.8
Fuel system		Electronic direct injection	
Fuel tank capacity	litres	72	74
Gear ratio:	1st	3.487	
	2nd	1.992	
	3rd	1.449	
	4th	1.000	
	5th	0.707	
	6th	0.600	
	Reverse	3.990	
	Final drive	4.411	
Maximum power (kW @ rpm)		170 @ 5,000	
Maximum torque (Nm @ rpm)		420 @ 2,000	
Recommended fuel		Unleaded (91RON or higher) or E10	
CO_2 figures	g/km	197	206
Throttle control		Electronic (drive-by-wire)	
Transmission		6-speed (SKYACTIV-Drive)	

MODEL AVAILABILITY		Sport	Touring	GT	Azami
7-seat SUV:	2.5L Turbo I4 Petrol FWD / 6-speed automatic	•	•	•	•
	2.5L Turbo I4 Petrol AWD / 6-speed automatic	•	•	•	•

• = Standard, – = Not available

CHASSIS		Sport	Touring	GT	Azami
Brake diameter (mm):	Front	320			
	Rear	325			
Brake type:	Front	Ventilated disc			
	Rear	Solid disc			
Steering type		Electric power assist steering			
Suspension:	Front	MacPherson strut			
	Rear	Multi-link			
Turning circle (kerb-to-kerb)	m	11.8			
Tyre size		255/60 R18		255/50 R20	
Tyre index		108H		105V	
Wheel size		18 x 8.0 J		20 x 8.5 J	
Wheel type		Alloy			
Tyre size (spare)		185/80 R17			
Wheel size (spare)		17 x 5.5 J			
Wheel type (spare)		Temporary (Steel)			

WEIGHT AND CAPACITIES		Sport	Touring	GT	Azami
Cargo volume VDA[2]	litres	230			
Cargo volume VDA[3]	litres	810			
Kerb weight (kg):	2.5L Turbo I4 Petrol FWD / 6-speed automatic	1,845		1,858	
	2.5L Turbo I4 Petrol AWD / 6-speed automatic	1,911		1,924	
Towing capacity[4] (kg):	Braked	2,000			
	Unbraked	750			
Tow ball download maximum	kg	100			

DIMENSIONS		Sport	Touring	GT	Azami
Ground clearance (mm):	Laden	220			
	Unladen	222			
Overall length	mm	5,075			
Overall width	mm	1,969			
Overall height	mm	1,747			
Track (mm):	Front	1,663			
	Rear	1,663			
Wheelbase	mm	2,930			

EXTERIOR	Sport	Touring	GT	Azami
Daytime running lamps (Halogen)	•	•	•	-
Daytime running lamps (LED)	-	-	-	•
Door handles (body coloured)	•	•	•	•
Exhaust extensions (chrome)	•	•	•	•
Front fog-lamps (LED)	-	•	•	•
Front and rear bumpers (body coloured)	•	•	•	•
Green-tinted windscreen, side and rear windows	•	•	•	•
Headlamps (LED)	•	•	•	•
Headlamps auto on/off function	-	•	•	•
Power mirrors (body coloured)	•	•	-	-
Power mirrors (body coloured with heating function)	-	-	•	•
Power sliding and tilt glass sunroof	-	-	•	•
Power windows	•	•	•	•
Rear spoiler	•	•	•	•
Remote operated power tailgate (open/close)	-	-	•	•
Tail-lamps (LED)	•	•	•	•
Window demister (rear)	•	•	•	•
Wiper (rear) with intermittent function	•	•	•	•
Wipers (front) 2-speed with rain-sensing function	-	•	•	•
Wipers (front) 2-speed with variable intermittent function	•	-	-	-

• = Standard, - = Not available

INTERIOR		Sport	Touring	GT	Azami
Active Driving Display (with two position memory)		-	-	•	•
Air-conditioning (three-zone climate control) with independent rear control and vents (2nd row)		•	•	•	•
Ambient temperature display		•	•	•	•
Cargo area 12 volt power outlet		•	•	•	•
Centre armrest console		•	•	•	•
Critical function warning lights/chimes		•	•	•	•
Cruise control		•	•	•	•
Mazda Radar Cruise Control with Stop & Go function		-	-	-	•
Cupholders		•	•	•	•
Door bottle holders (front and rear)		•	•	•	•
Electric parking brake		•	•	•	•
Glove box		•	•	•	•
Instrument panel light dimmer		•	•	•	•
Interior illumination:	Cargo room lamp	•	•	•	•
	Entry system with delayed fade	•	•	•	•
	Map reading spot lamps (Incandescent)	•	•	-	-
	Map reading spot lamps (LED)	-	-	•	•
	Power window switch	•	•	•	•
Leather-wrapped:	Gear shift knob	•	•	•	•
	Steering wheel	•	•	•	•
One touch (up and down) power window (driver)		•	•	-	-
One touch (up and down) power windows (front and rear)		-	-	•	•
Overhead sunglass storage box		•	•	•	•
Rear door window sunshade		-	-	•	•
Rear-view mirror with auto dimming function		•	•	•	•
Tachometer and electronic odometer/tripmeter		•	•	•	•
Tilt and telescopic adjustable steering wheel		•	•	•	•
Trip computer[6]		•	•	•	•
Vanity mirrors (front) with illumination		•	•	•	•

• = Standard, - = Not available

SEATS		Sport	Touring	GT	Azami
Front seats with:	2-position memory function (driver)	-	-	•	•
	6-way power adjustment (passenger)	-	•	•	•
	8-way power adjustment (driver)	-	•	•	•
	Adjustable head restraints	•	•	•	•
	Heating function	-	•	•	•
	Height adjustment	•	•	•	•
	Lumbar support adjustment (driver)	-	•	•	•
	Rake and slide adjustment	•	•	•	•
	Seat back pockets	•	•	•	•
Rear seats with:	60/40 split fold backrest (2nd row)	•	•	•	•
	50/50 split fold backrest (3rd row)	•	•	•	•
	Adjustable head restraints	•	•	•	•
	Centre fold down armrest (2nd row)	•	-	-	-
	Centre fold down armrest with USB and storage (2nd row)	-	•	•	•
	Rake and slide adjustment (2nd row)	•	•	•	•
Seat trim:	Black cloth	•	-	-	-
	Black leather[5]	-	•	•	•
	Natural Stone leather[5]	-	-	○	○

• = Standard, ○ = Optional, - = Not available

INFOTAINMENT	Sport	Touring	GT	Azami
7-inch full colour touch screen display (MZD Connect)	•	-	-	-
8-inch full colour touch screen display (MZD Connect)	-	•	•	•
AM/FM tuner	•	•	•	•
Auxiliary-audio input jack (3.5mm mini-stereo)	•	•	•	•
Bluetooth® hands-free phone and audio capability[7]	•	•	•	•
Digital radio (DAB+)	-	-	•	•
Internet radio integration (Pandora®, Stitcher™ and Aha™)	•	•	•	•
Multi-function commander control	•	•	•	•

INFOTAINMENT CONTINUED	Sport	Touring	GT	Azami
Premium Bose® 294 watt amplifier and speakers	-	-	•	•
Radio Data System (RDS) program information	•	•	•	•
Satellite navigation	•	•	•	•
Speakers (6)	•	•	-	-
Speakers (12)	-	-	•	•
Steering wheel-mounted audio controls	•	•	•	•
USB-audio input port (iPod® compatible)	•	•	•	•

• = Standard, - = Not available

SAFETY AND SECURITY		Sport	Touring	GT	Azami
Adaptive LED Headlamps (ALH)		-	-	-	•
Advanced Blind Spot Monitoring (ABSM)		•	•	•	•
Advanced keyless entry		-	-	•	•
Advanced keyless push-button engine start		•	•	•	•
Airbags SRS:	Front (driver and passenger)	•	•	•	•
	Side (front)	•	•	•	•
	Curtain (front and rear)	•	•	•	•
Anti-lock Braking System (ABS)		•	•	•	•
Childproof rear door locks		•	•	•	•
Driver Attention Alert (DAA)		-	-	-	•
Dynamic Stability Control (DSC)		•	•	•	•
Electronic Brake-force Distribution (EBD)		•	•	•	•
Emergency Brake Assist (EBA)		•	•	•	•
Emergency Stop Signal (ESS)		•	•	•	•
Engine immobiliser		•	•	•	•
Forward Obstruction Warning (FOW)		-	-	-	•
High mount stop lamp		•	•	•	•
Hill Launch Assist (HLA)		•	•	•	•
Intrusion-minimising brake pedal		•	•	•	•
ISOFIX child restraint anchorage points (2)		•	•	•	•
Top tether child restraint anchorage points (4)		•	•	•	•
Lane Keep-assist System (LAS)		-	-	-	•

SAFETY AND SECURITY CONTINUED	Sport	Touring	GT	Azami
Lane Departure Warning (LDW)	-	-	-	•
Left-hand-side convex (wide angle) exterior mirror	•	•	•	•
Parking sensors (front)	-	-	•	•
Parking sensors (rear)	•	•	•	•
Rear Cross Traffic Alert (RCTA)	•	•	•	•
Remote central locking (2 transmitters)	•	•	•	•
Reverse camera	•	•	•	•
Roll Stability Control (RSC)	•	•	•	•
Seat-belt warning (front and rear)	•	•	•	•
Seat-belts 3-point lap-sash (all seats)	•	•	•	•
Seat-belts (front) with pretensioners, load-limiters and height adjustable shoulder anchorages	•	•	•	•
Seat-belts (2nd row) with pretensioners and load-limiters	•	•	•	•
Side impact door beams	•	•	•	•
Smart Brake Support (SBS)	-	-	-	•
Smart City Brake Support [Forward/Reverse] (SCBS F/R)	•	•	•	•
Traction Control System (TCS)	•	•	•	•
Trailer Stability Assist (TSA)	•	•	•	•
Triple H' safety construction with front and rear crumple zones	•	•	•	•
Whiplash-minimising front seats	•	•	•	•

• = Standard, - = Not available

Specific disclaimers

1 Fuel consumption figures are based on ADR 81/02 test results. They are useful in comparing the fuel consumption of different vehicles. They may not be the fuel consumption achieved in practice. This will depend on traffic and road conditions and how the vehicle is driven.
2 Measured with 3rd row seats up and up to roof.
3 Measured with 3rd row seats folded down and up to roof.
4 Subject to State or Territory regulations.
5 Leather interior includes some Maztex material on selected high impact surfaces.
6 Trip computer displays current and average fuel consumption, distance to empty and compass.
7 Please check the compatibility of your Bluetooth® device (particularly your mobile phone) with the specific Mazda vehicle you intend to purchase as not all devices operate correctly. Visit **www.mazda.com.au/Bluetooth** or consult your Mazda Dealer for further information.

General Disclaimer

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