



MAZDA **MX-5** / MAZDA **MX-5 RF**



ND-00C-A3  
E-187T

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## The open air, the Mazda way

One shining inspiration runs throughout the whole of Mazda MX-5's long and storied history: the purest expression of the lightweight, open-top sports car's fun-to-drive character. And MX-5 RF\* brings that unmatched pleasure to an even wider range of drivers, stimulating hidden emotions and awakening dormant sensibilities. The intensely beautiful fastback styling and unique power retractable hardtop are the result of Mazda's KODO – Soul of Motion design philosophy and provide an entirely new way to open and close the roof. Plus Mazda's trademark *Jinba-ittai* handling and eco-friendly performance are assured by the latest evolution of SKYACTIV TECHNOLOGY which continues to set the pace in automotive engineering. Technically, aesthetically, emotionally – Mazda MX-5 and MX-5 RF are a tour de force like no other car on the road, offering a truly unforgettable experience. An experience you owe it to yourself to discover.

\*RF stands for "Retractable Fastback".

魂動  
KODO : SOUL of MOTION











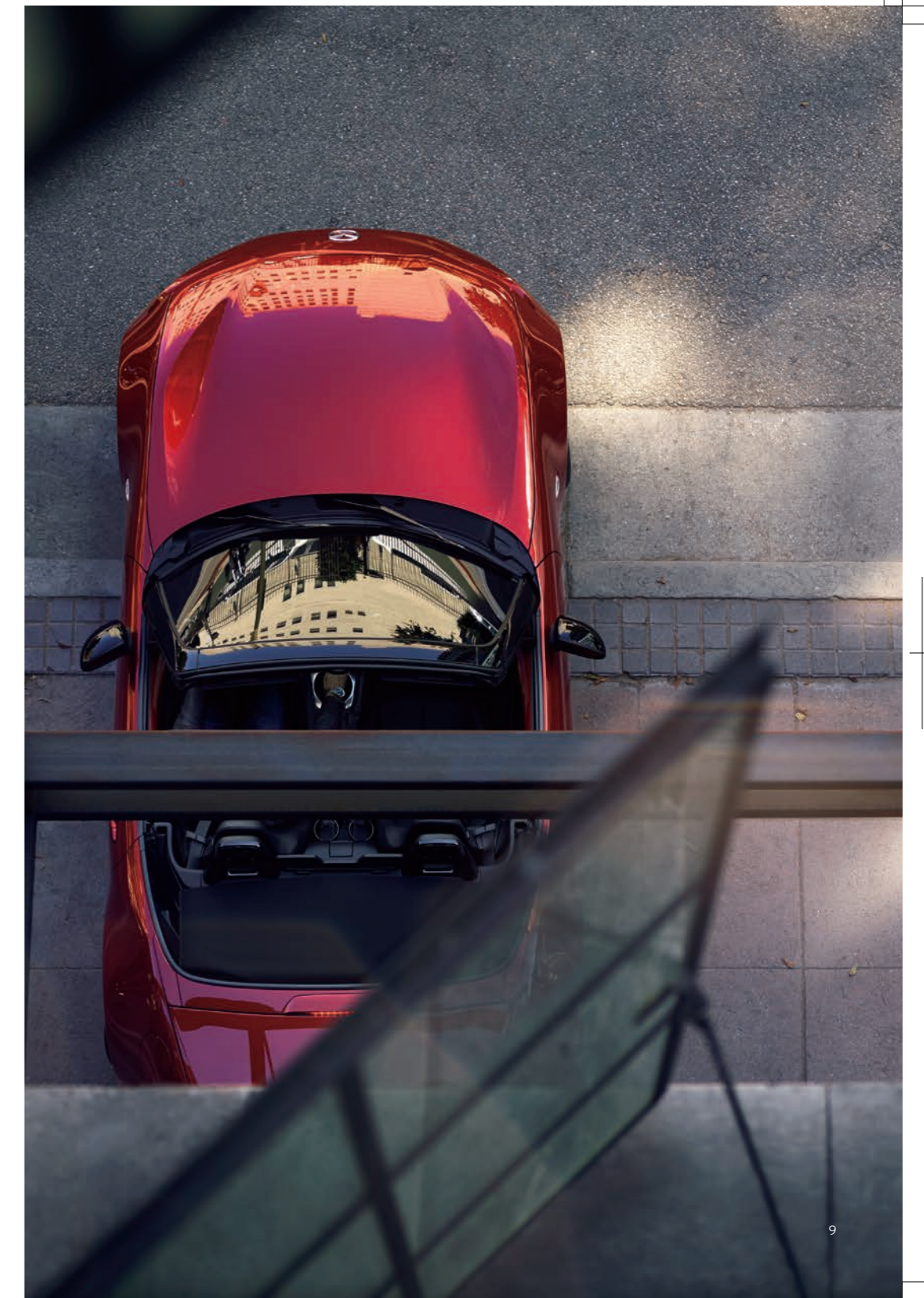
The unmistakable, classic beauty of a fastback design and the unsurpassed versatility of a retractable hardtop: it could only be MX-5 RF. Once again, Mazda creates another innovative sports car design icon offering a quiet, luxurious cabin when the roof is closed and an entirely new take on open-air driving when the roof is retracted. Take the wheel and discover the difference for yourself, roof closed and open.







For more than a quarter of a century since its first introduction, and with each new generation, MX-5 has captured hearts and awards all over the world. Its pure driving pleasure, combined with the seamless way interior/external boundaries are dissolved, takes open-top motoring to an entirely new pinnacle of joy on the road.



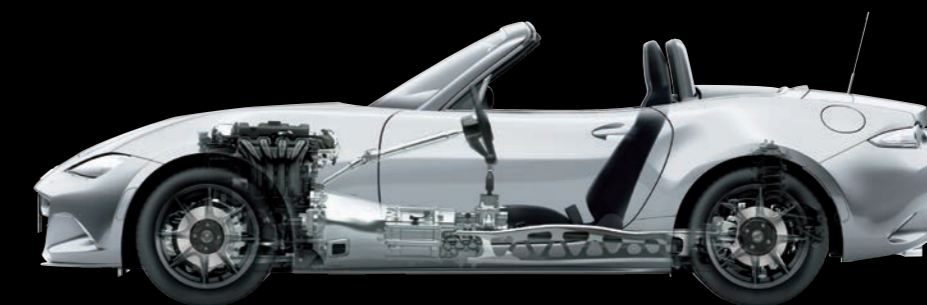




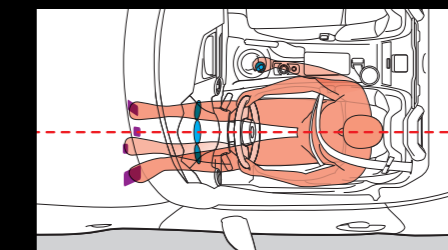
## The redefinition of driving pleasure

First and foremost, development focused on creating a driving experience only the MX-5 series could offer, through response and handling that precisely match the driver's intentions. The aim was simple: to make the vehicle feel like a natural extension of your body. Enhancing Mazda's trademark *Jinba-ittai* – the feeling of being one with car – and fun-to-drive characteristics were the watchwords, even as successive models met the challenge of satisfying ever-higher demands for comfort, safety and environmental friendliness. Of course, weight was kept as low as possible, while the latest advances in SKYACTIV TECHNOLOGY keep the suspension, body and powertrain acting in perfect harmony. Taken together, it all adds up to a total redefinition of sports car driving pleasure.

### Refining the classic lightweight sports car



From the very first generation, Mazda MX-5 has always featured a compact, open-top two-seater body, a Front-midship engine/Rear-wheel drive (FR) configuration, and 50:50 front/rear weight distribution – the classic layout of a lightweight sports car. The fourth generation carries on the tradition, but with the engine moved rearward and an aluminium bonnet and boot lid to achieve a lowered yaw inertia moment. Combined with a lower centre of gravity realized by lowering the engine's mounting position and the seats, this results in the kind of response and handling drivers dream about. Another key element adding to the commanding feeling of control is the driving position: the driver is placed closer to the car's centre line, the steering column features telescopic adjustment, and the pedals, controls, meters and displays are optimally located to allow the driver to maintain good posture and drive comfortably. Additionally, the low nose, rearward position of the A-pillars and thinner front header afford a panoramic view for



easier confirmation of the surroundings and the car's behaviour. The seats themselves feature Mazda's innovative and ergonomic S-fit Structure, employing a net material and urethane pads in place of the conventional metal springs/urethane pad structure. This reduces both the weight and thickness of the seats at the same time as providing superior support and holding capability when driving hard through the curves.



### Saving weight, adding performance



SKYACTIV TECHNOLOGY, long years of experience and Mazda's proven 'Gram strategy' allowed a significant weight reduction for the current generation. Optimal distribution of functions, introduction of compact components, structural innovations, and wider use of aluminium and other lightweight materials resulted from Mazda's pursuit of the ideal structure for the body, chassis and engine. And by further advancing the SKYACTIV-BODY concept of a continuous framework, this reduced weight even resulted in greater rigidity. Measures taken included optimizing the framework, larger cross-sections and straighter lines for the high-mount backbone frame, and more extensive use of high-tensile sheet steel, as well as integrating the chassis and the body. In particular, MX-5 RF has a dedicated tunnel member specifically developed to handle the changes in front/rear rigidity stemming from the retractable hardtop.



## SKYACTIV TECHNOLOGY

### SKYACTIV-G 2.0



Max. power:  
135kW/7,000rpm  
Max. torque:  
205Nm/4,000rpm



4-2-1 exhaust system

Lightweight, low-friction piston

Higher-revving, higher-power performance with lively response right up to the red line and smooth acceleration in any gear is the promise. And the evolved SKYACTIV-G 2.0 direct-injection petrol engine delivers in full measure, taking you to a world of satisfying driving that is both exciting *and* eco-friendly. The new intake system features a common-type intake port to maximize air intake volume, while the 4-2-1 exhaust system with redesigned exhaust port greatly reduces pumping loss. Inertial mass and mechanical resistance are reduced thanks to lightweight pistons and connecting rods. Combustion characteristics and anti-knock capability are enhanced by newly designed piston heads that strengthen tumble swirl and reduce unburned fuel. And high-diffusion fuel injectors with a three-stage split fuel injection control scheme

minimize waste while promoting secure fuel vaporization. These innovations add up to dramatically improved performance: maximum engine speed is raised to 7,500rpm for a smoother impression of power and a feel of effortless and limitless acceleration, maximum output is raised, torque is increased from low to high engine speeds, and fuel efficiency and environmental performance are further improved. The extraordinary compression ratio of 13.0:1 is retained, even as the knock usually caused by such high compression is suppressed. A newly adopted low-inertia dual-mass flywheel delivers sharp and agile engine response, as well as a clear engine tone. And an entirely renewed main silencer system contributes a linear engine note to accelerator inputs, promoting greater unity with the MX-5.

### SKYACTIV-MT



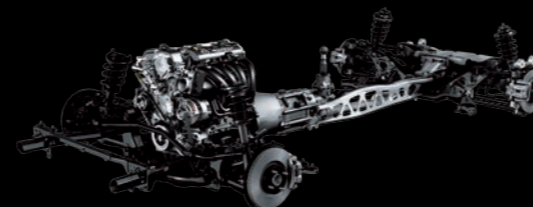
The new-generation six-speed manual transmission SKYACTIV-MT was originally developed to bring the same light positive shifting enjoyed in previous generations of the MX-5 to a broader lineup of Mazda cars, achieving this through a complete redesign of the internal shift mechanism for more efficient action and minimum friction. That design has been painstakingly reviewed to fit the FR layout and realize crisp, 'just right' operation with a positive feeling as if the lever is guiding itself into your desired gear. In addition, adoption of a direct-drive sixth gear contributed to a simpler structure that is both lighter and more compact.

### SKYACTIV-BODY



The goal was lower weight with better safety performance and greater rigidity, achieved by clever engineering to optimize structures and make effective use of materials. And through applying all the knowledge acquired in developing SKYACTIV TECHNOLOGY to date, Mazda engineers created a new SKYACTIV-BODY specifically tailored to an open-top lightweight sports car. The basic concept was to use straight beams and a continuous framework wherever possible to create a structure whose individual sections functioned in perfect harmony. In addition, widespread use of aluminium and high-tensile steel realizes both safety and extreme rigidity, resulting in a lightweight open-top body ideally prepared to respond to the driver's every intention.

### SKYACTIV-CHASSIS



Engineered to deliver even more of Mazda's famous oneness between car and driver, the SKYACTIV-CHASSIS was born from a comprehensive revision of the basics of suspension and steering systems, achieving both weight reduction and excellent rigidity. And while the MX-5 series continues to use the same double-wishbone front suspension and multilink rear suspension configuration as the previous model, they are entirely redesigned to match the SKYACTIV-CHASSIS to optimize the geometry and create a suspension system offering enhanced stability and greater control when cornering. What's more, MX-5 RF's chassis is specially tuned for a refined and relaxing ride. In addition, the Electric Power Assist Steering (Dual Pinion) system has extremely rigid steering characteristics and delivers direct feedback from the road surface.

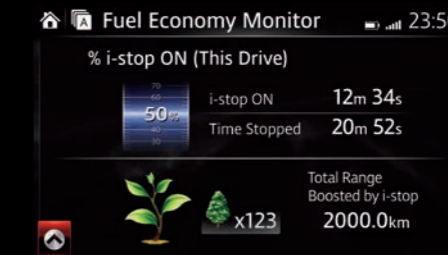
## Other advanced technologies

### Six-speed automatic transmission



This six-speed automatic transmission is engineered to provide a direct shift feel and superior fuel economy thanks to a torque converter with wider slip control and lock-up range. A throttle blip function automatically revs the engine when downshifting to give quicker shifts and enhanced deceleration response. And Drive Selection allows switching between Normal and Sport/Manual drive modes for a sportier, more satisfying driving experience.

### i-STOP



Mazda's i-stop idling stop system automatically shuts the engine down when you come to a complete halt after braking, saving the fuel wasted when stopped in traffic or at a signal to improve fuel economy by as much as 5%. Release the brake pedal and fuel is injected directly into the cylinder ready for an almost instantaneous restart. What's more, because i-stop uses combustion energy rather than the starter motor, restarts are both quicker and smoother.

### i-ELOOP



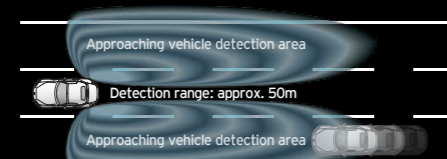
Regenerative braking is a process in which the car's kinetic energy during deceleration is used to generate electricity. To make this process most efficient, Mazda developed the i-ELOOP regenerative braking system that contributes to reducing electricity generation by the alternator, therefore minimizing fuel consumption. i-ELOOP captures the energy lost during deceleration, and saves it as electrical power in a revolutionary high-capacity Electric Double Layer Capacitor (EDLC). The moment you step off the accelerator, the vehicle's forward momentum drives the alternator and starts charging the EDLC which quickly reaches full charge. Then when you step on the accelerator again, the stored electricity is used to power the car's electrical equipment. It's virtually free energy! The EDLC can stand an almost unlimited number of charge-discharge cycles, and combined with i-stop improves fuel economy.

## Performance car, performance safety

Mazda's safety philosophy, which guides the research and development of all our safety technologies, is based on understanding, respecting and trusting the driver. To drive more safely it's essential to recognize potential hazards, exercise good judgement and operate the car in an appropriate fashion. Mazda aims to support these essential functions so that drivers can drive securely and with peace of mind, despite changing driving conditions. Active safety measures include Mazda's i-ACTIVSENSE suite of advanced safety technologies to help identify and assess potential hazards early on and reduce the risk of damage or injury. Passive safety features include a version of Mazda's high-strength SKYACTIV-BODY specifically designed for an FR open-top car.

### i-ACTIVSENSE

#### Blind Spot Monitoring (BSM) and Rear Cross Traffic Alert (RCTA)



BSM uses 24GHz quasi-milliwave radar sensors to detect vehicles in the blind spots behind and to the side, and using a turn signal while BSM detects a vehicle triggers visual and audio warnings. RCTA uses the same sensors to alert the driver when it detects vehicles approaching from either side during reversing operations.

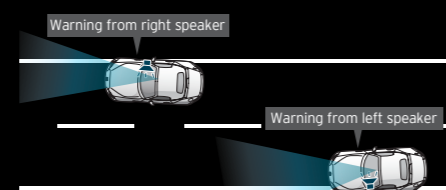
#### Advanced Smart City Brake Support (Advanced SCBS) and Smart City Brake Support [Reverse] (SCBS R)



Advanced SCBS detects vehicles and pedestrians\* in front of the vehicle and automatically applies the brakes to help avoid collisions and mitigate collision damage while driving forward. When reversing, SCBS R detects vehicles and obstacles behind and automatically applies the brakes to help mitigate collision damage.

\*Detection of pedestrians and consequent automatic braking are not available in certain countries and regions.

#### Lane Departure Warning System (LDWS)



LDWS senses lane markings on the road surface. When the system predicts departure from the lane it issues a beep or an audible warning similar to the noise a car makes when it runs onto a rumble strip to prompt timely steering corrections. The system assesses driver inputs such as use of the turn signals to weed out false alarms.

### Other features

#### SRS airbags



All grades feature front airbags as standard equipment for both seats. Side airbags with a head-protecting cell help safeguard occupants' heads from injury inflicted by walls or poles in a collision, even when the top is down.

#### Pedestrian protection



The Active Bonnet design releases the bonnet instantly whenever impact with a pedestrian is anticipated, to quickly secure a safety space between the bonnet and rigid parts in the engine compartment. At the same time, the bonnet's inner structure effectively absorbs impact energy.

## Keeping you focused and in the picture

All driving demands concentration. Sports driving even more so. And it's hard to maintain concentration in modern cars because they constantly supply you with information: route guidance from the navigation system, hazard warnings, audio entertainment from a wide range of sources...the list just goes on. The key is how information is presented. That's why Mazda developed its unique Human-Machine Interface (HMI) design, and engineered the cockpit from the ground up to give you information in a way that lets you stay focused on the road and on safe driving.

### The leading edge of HMI design

The amount of information presented to you when driving continues its increase. For example, i-ACTIVSENSE detects traffic conditions around the vehicle and provides warnings, while MZD CONNECT, Mazda's in-vehicle connectivity system, offers the latest Internet-connected services via your smartphone. So to present this rising tide of information without compromising safety, Mazda engineered the cockpit's HMI design to prevent confusion in decision-making, minimize driver eye movements, and reduce physical stress.

The cockpit itself is divided into two zones, one

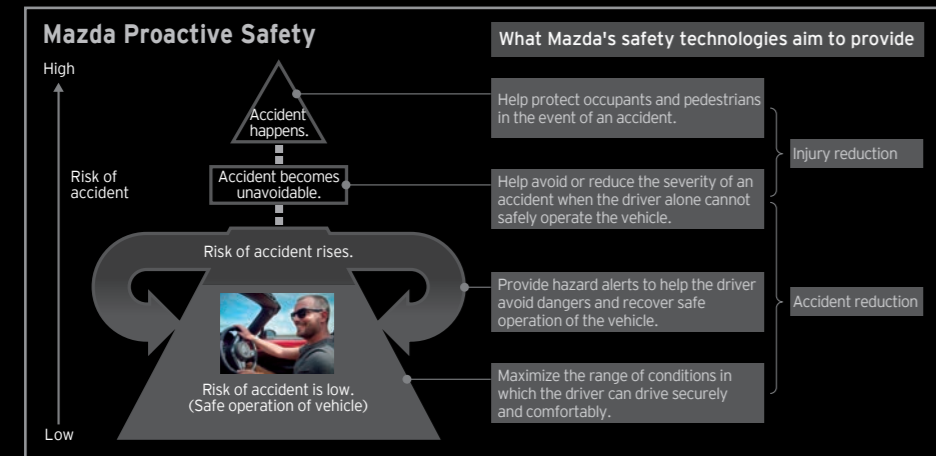
focused on driving and the other focused on infotainment, and each zone has information displays and controls according to its purpose. Physically separating these interfaces promotes easier recognition and smoother operation. Frequently used operations are controlled by steering-wheel mounted switches without taking the hands off the steering wheel. Information for MZD CONNECT's audio, communication and navigation functions is displayed on a seven-inch centre display featuring graphics designed for instant legibility. Multi-stage operations of MZD CONNECT are quickly and accurately controlled by a commander control located on the floor console where the driver's hand naturally falls.

### MZD CONNECT, the benchmark in-vehicle connectivity system

Internet connectivity has become an essential part of daily life, even while travelling in a car.



Note: Available functions of MZD CONNECT may vary according to the type of connected smartphone and its operating environment. Please consult your local Mazda dealer for exact information.



Notes: i-ACTIVSENSE safety features are not a substitute for safe and attentive driving. There are limitations to the range and detection of the systems. Availability of safety equipment/features varies according to country and model grade. Please consult your local Mazda dealer for exact information.



## Comfort and utility



Four-lamp LED headlights, standard on all grades, highlight the Mazda brand presence on the road, day or night. Their eye-like design gives all MX-5 models a look of vitality and power waiting to be unleashed.



The iconic design of the U-shaped rear combination lamps and round tail lights is a tribute to the rear view of previous generations of the MX-5.



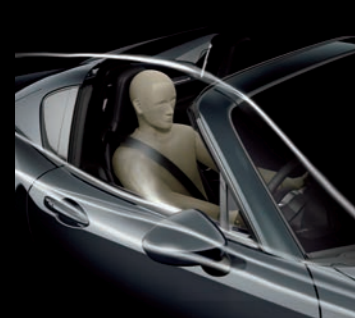
16-inch and 17-inch aluminium wheels are manufactured with a cold casting technique to strengthen the material and achieve both weight reduction and functional beauty. Black metallic paint for both wheel sizes emphasizes the bold impression MX-5's styling delivers.



The large analogue tachometer and speedometer feature needles with a vertical zero position to emphasize the contrast between action and inaction, suggesting the image of a Japanese sword master poised to strike.



The exclusive Bose® premium sound system features nine speakers including a pair of speakers in both the driver's and passenger's headrests, to deliver superior sound quality even when driving with the top down.



Comprehensive airflow control measures minimize unpleasant draughts while guiding just a refreshing breeze to the occupant's arms and chest to assure the full pleasure of driving with the top down. A large, transparent aero board supports MX-5 RF's body rigidity while maintaining rearward visibility.



Despite the short rear overhang and the space dedicated to stowing the roof, the boot on both models is long and wide giving truly practical use. This versatile luggage compartment can easily accommodate a pair of hard-type carry-on bags, and MX-5 RF's boot even features a multipurpose box for tools and other items.



Compared to previous generations, the soft top is both lighter and more efficient at reducing noise and vibration. In addition, opening and closing the top while seated requires less effort, allowing carefree enjoyment of open-air driving.



The power retractable hardtop consists of front-, middle- and rear-roof sections and the rear window glass panel. When open, the rear roof remains on the body while the other parts are stowed in the space behind the seats. Opening/closing the roof is done by simply pressing the switch on the front console, even when MX-5 RF is in motion (at speeds up to 10km/h). The movements of each roof section are synchronized and overlapped to achieve smooth, fast operation. Operation is confirmed by a five-step animation shown in the multi-information display in the meter cluster.

## Exterior and interior colours

### TAKUMI-NURI

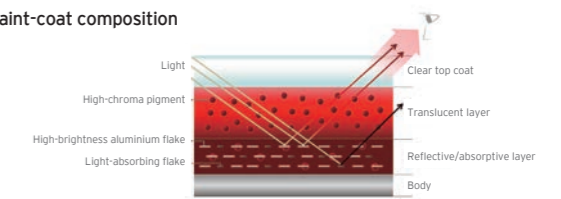


Soul Red Crystal Metallic (46V)



Machine Grey Metallic (46G)

### Paint-coat composition



Mazda's unique painting technology TAKUMI-NURI (TAKUMI: master craftsman, NURI: painting), with its unprecedented combination of colour, highlights, shade and depth, further emphasizes the sheer beauty and quality of the dynamic KODO design body shape. The MX-5 lineup includes two TAKUMI-NURI body colours: Soul Red Crystal Metallic and Machine Grey Metallic. The bright highlights, pure depths and outstanding transparency of Soul Red Crystal Metallic deliver a powerful impression of emotionally charged energy, giving MX-5 a fresher, more impressive and refined appearance.



Eternal Blue Mica (45B)



Ceramic Metallic (47A)



Arctic White (A4D)



Jet Black Mica (41W)



Snowflake White Pearl Mica (25D)



Leather, Black



Leather, Tan



Cloth, Black\*



Nappa leather, Auburn

\*Only for MX-5





1

1. Mazda produced its first automobile in 1931, and steadily increased the production volume of three-wheel vehicles after World War II.

2. From development through to production, Mazda engineers share a tradition of teamwork, unified and inspired by their determination to create the world's finest cars.



2

## Celebrating challenge, celebrating driving

The history of Mazda stretches back over 90 years – a history of meeting challenge head-on and winning. In 1931 Mazda became the first manufacturer of an entirely Japanese-made three-wheel vehicle, going on to cement its position as Japan's leading maker of three-wheeled trucks, a mainstay of short-haul cargo transportation at the time. At the end of World War II Mazda's home base of Hiroshima lay in ruins, yet Mazda took on the challenge of reconstruction and through innovation and dedication resumed export of three-wheeled trucks within just four years.

In 1961 Mazda accepted another major challenge: development and commercialization of the rotary engine. This unique design for the internal combustion engine presented a host of technological hurdles including development of new materials and the improvement of processing technology precision. And again Mazda engineers rose to the challenge, bringing fresh thinking to the table and succeeding where others had failed. The result was a series of rotary-engined vehicles beginning with the stunning 1967 Cosmo Sport, now a sought-after classic.

It was also the 60s that saw lightweight sports cars hit their peak. But through the course of the 70s, increasingly stringent safety standards and emissions controls caused their numbers to plummet. Once again, Mazda saw a challenge – reinventing the lightweight sports car to meet new safety and environmental standards while maintaining uniquely fun-to-drive characteristics. In 1989 the groundbreaking Mazda MX-5 debuted to instant acclaim and has stayed in production ever since, winning a place in the Guinness Book of Records as the world's best selling two-seater sports car.

Further underlining Mazda's sporting credentials came overall victory in the 1991 Le Mans 24 hour endurance race with the rotary engine 787B. This was the first – and only – time for a Japanese manufacturer to take the laurels in this prestigious event, amply demonstrating that not only do we set out to win, we do it with our own unique technology.

At Mazda, we have always blazed our own trail in our own way. Where others see limits, we see only a challenge as we create vehicles for people who love to celebrate driving.



3



3



4



5



6



7



7



7



3. Mazda began development work on the rotary engine in the early 1960s, a project that faced severe technical problems.

4. By 1967 these technical challenges were overcome, and the world's first rotary-engined vehicle, the Cosmo Sport, was launched.

5. Mazda MX-5 was born in 1989 as a pure lightweight sports car. Enthusiastic fans around the world celebrated its 20th anniversary in 2009.

6. June 23, 1991 saw the rotary-powered Mazda 787B beat the world at motor-racing's most prestigious endurance event, the 24 Hours of Le Mans.

7. At Mazda we look at things differently, aim higher and defy conventions. This has always been a core part of our corporate culture.