An Album of Mazda's Rotary Engine Vehicles

Cosmo Sport/Mazda 110S — 1967 – 1972

The world's first twin-rotor rotary engine car was launched in May 1967. Its low, streamlined silhouette and futuristic body styling took advantage of the compact rotary engine, and defined the start of the rotary engine era, thrilling customers everywhere. In July of 1968, the improved version of the Cosmo Sport went on sale, featuring an uprated 128PS L10B rotary engine and wheelbase extended by 150mm. Maximum speed of 200km/h and acceleration that covered 400m from a standing start in 15.8sec. excited sports car fans all over the globe. A total of 1,176 units were produced over 5 years.

Major specifications:
■ Length×Width×Height: 4140×1595×1165mm ■ Wheelbase: 2200mm ■ Track (front/rear): 1250/1240mm ■ Vehicle Weight: 940kg ■ Seating Capacity: 2 ■ Engine Type: 10A ■ Displacement: 491cc×2 ■ Maximum Output: 110PS/7000rpm ■ Maximum Torque: 13.3kg-m/3500rpm (JIS gross) ■ Maximum Speed: 185km/h ■ Transmission: 4-speed Manual

Familia Rotary/Mazda R100 — 1968 – 1973

Development was based on the prototype Mazda RX-85, announced in 1967 at the 14th Tokyo Motor Show. It went on sale in July, 1968. The type 10A rotary engine, proven to be reliable and durable in the Cosmo Sport, was mounted in a fastback, two-door coupe style body designed as a high performance touring car, but with sufficient space to be used as a family car. In 1969, the sedan version—a high-performance family car called the Familia Rotary SS—was added to the lineup. A total of 95,891 units were produced over 5 years.

Major Specifications of the Familia Rotary Coupe:
■ Length×Width× Height: 3830×1480×1345mm ■ Wheelbase: 2260mm ■ Track (front/rear): 1200/1190mm ■ Vehicle Weight: 805kg ■ Seating Capacity: 5 ■ Engine Type: 10A ■ Displacement: 491cc×2 ■ Maximum Output: 100PS/7000rpm ■ Maximum Torque: 13.5kg-m/3500rpm (JIS gross) ■ Maximum Speed: 180km/h ■ Transmission: 4-speed Manual

Luce Rotary Coupe/Mazda R130 Coupe — 1969 – 1972

This highly refined personal coupe based on the prototype Mazda RX-87, was announced in 1968 at the 15th Tokyo Motor Show. It featured a front-engine, front-wheel-drive configuration and went on sale in October 1969. Its elegantly designed Italian-style body was graced with streamlined curves and shapely sculptured lines, without the then-popular front quarter windows. The type 13A rotary engine generating 126PS at 6000rpm boasted outstanding performance; it was extremely quiet and fit right into the trend of high-speed driving becoming popular at the time.

Major Specifications:
■ Length×Width×Height: 4585×1635×1385mm ■ Wheelbase: 2580mm ■ Track (front/rear): 1330/1325mm ■ Vehicle Weight: 1185kg ■ Seating Capacity: 5 ■ Engine Type: 13A ■ Displacement: 655cc×2 ■ Maximum Output: 126PS/6000rpm ■ Maximum Torque: 17.5kg-m/3500rpm (JIS gross) ■ Maximum Speed: 190km/h ■ Transmission: 4-speed Manual

* Data is taken from the first production models (Japan specification)

Capella Rotary/Mazda RX-2 — 1970 – 1978

Launched as a high-performance model in the mid-sized Capella series and went on sale in May 1970. A newly designed rotary engine, the 12A, was installed and the G series, the world's first rotary engine car with authentic automatic transmission, was added in 1971. The high-performance GSII with its 5-speed manual transmission, was introduced in 1972, and the AP, with its full anti-pollution package, came out in 1974. Winner of the 1972 Import Car-of-the-Year award from Road Test, a popular car magazine in the U.S. at the time.

Major Specifications of the Capella Rotary Coupe:
■ Length×Width×Height: 4150×1580×1395mm ■ Wheelbase: 2470mm ■ Track (front/rear): 1285/1280mm ■ Vehicle Weight: 950kg ■ Seating Capacity: 5 ■ Engine Type: 12A ■ Displacement: 573cc×2 ■ Maximum Output: 120PS/6500rpm ■ Maximum Torque: 16.0kg-m/3500rpm (JIS gross) ■ Maximum Speed: 190km/h ■ Transmission: 4-speed Manual

Savanna/Mazda RX-3 — 1971 – 1978

A sport sedan and coupe launched in September 1971, with the type 10A rotary engine. In 1972 the fully automatic transmission version, the Sport Wagon, was introduced as the world's first rotary engine wagon. The GT, with its 12A rotary engine and 5-speed manual transmission, was also added. A variety of sport-kits were prepared and contributed to many successful races. In 1973, the AP, with its anti-pollution package, was added. In 1975, the REAPS rotary engine, which achieved lower emissions and better fuel economy, was introduced.

Major Specifications of the Savanna Coupe:
■ Length×Width×Height: 4065×1595×1350mm ■ Wheelbase: 2310mm ■ Track (front/rear): 1300/1290mm ■ Vehicle Weight: 875kg ■ Seating Capacity: 5 ■ Engine Type: 10A ■ Displacement: 491cc×2 ■ Maximum Output: 105PS/7000rpm ■ Maximum Torque: 13.7kg-m/3500rpm (JIS gross) ■ Maximum Speed: 175km/h ■ Transmission: 4-speed Manual

Luce Rotary/Mazda RX-4 — 1972 – 1977

The second generation Luce, with its 12A rotary engine, was launched in October 1972 and was available in three body styles: hardtop, sedan, and custom. These models led the way into the top sport & luxury markets for rotary engine cars. In 1973, the Luce Wagon and the Grand Turismo with wood-grain panels on the sides, were added. At the same time, additional models with low emission AP versions and 13B rotary engines were prepared. They proved that low emissions and high performance could be compatible.

Major Specifications of the Luce Sedan:
■ Length×Width×Height: 4240×1670×1410mm ■ Wheelbase: 2510mm ■ Track (front/rear): 1380/1370mm ■ Vehicle Weight: 1035kg ■ Seating Capacity: 5 ■ Engine Type: 12A ■ Displacement: 573cc×2 ■ Max. Output: 130PS/7000rpm ■ Max. Torque: 16.5kg-m/4000rpm (JIS gross) ■ Max. Speed: 185km/h ■ Transmission: 5-speed Manual/3-speed Automatic

Rotary Pickup

1973 – 1977

Marketed exclusively in North America where pick-up trucks enjoyed great popularity, this was the world's first pick-up truck and utility vehicle with a rotary engine. The lightweight and compact rotary engine was durable and fit well in this type of vehicle. Massive front grill, boxy body, large mirrors, extruded fenders, and wide tires were well-suited to the tastes of American pickup buyers. This was a unique rotary engine vehicle, not sold in Japan.

Major Specifications:
Not available, vehicle marketed exclusively in North America.

Parkway Rotary 26

1974 – 1976

The world's first rotary engine bus, launched in July 1974 and equipped with the 135PS maximum power 13B rotary engine, offered a cruising speed of 120km/h with a pleasantly smooth ride, low noise and little vibration, thanks to the inherent benefits of the rotary engine. Two models were available: a 26-passenger Deluxe version with optional air-conditioning operated by a sub-engine, and the 13-passenger Super-Deluxe version, with full luxury equipment. This was a unique model that showed the rotary engine was not solely for passenger cars.

Major Specifications:
■ Length×Width×Height: 6195×1980×2290mm ■ Wheelbase: 3285mm ■ Track (front/rear): 1525/1470mm ■ Vehicle Weight: 2885kg ■ Seating Capacity: 26 ■ Engine Type: 13B ■ Displacement: 654cc×2 ■ Maximum Output: 135PS/6500rpm ■ Maximum Torque: 18.3kg-m/4000rpm (JIS gross) ■ Maximum Speed: 120km/h ■ Transmission: 4-speed Manual

Roadpacer AP

1975 – 1977

A full-size sedan launched in March 1975, with some body parts and mechanical components supplied by GM-Holden of Australia. The engine was Mazda's 13B RE. Anticipating the era of international joint operations, this project aimed at lowering costs and raising quality through shortened development periods; it saved its tooling investment for the small-volume, premium market. The Roadpacer AP was mainly sold as a chauffeur-driven saloon for company executives, but was also attractive as a high-class personal car. 800 units were produced over three years.

Major Specifications:
■ Length×Width×Height: 4850×1885×1465mm ■ Wheelbase: 2830mm ■ Track (front/rear): 1530/1530mm ■ Vehicle Weight: 1575kg ■ Seating Capacity: 5 ■ Engine Type: 13B ■ Displacement: 654cc×2 ■ Maximum Output: 135PS/6000rpm ■ Maximum Torque: 19.0kg-m/4000rpm (JIS gross) ■ Maximum Speed: 165km/h ■ Transmission: 3-speed Automatic

Cosmo AP/Mazda RX-5

1975 – 1981

This highly refined specialty car was launched in October 1975. Named after the Cosmo Sport, Mazda's first commercialized rotary engine car, the Cosmo AP was available with both the 12A and 13B rotary engines with low-emissions package, and 10 optional variations were offered to customers. In 1977, Cosmo L, the Japan-first Landau-top model, was added. A commercial film, "Red Cosmo," became wildly popular, and this model became an image leader for developing the high-performance specialty car market in Japan.

Major Specifications of the Cosmo AP:
■ Length×Width×Height: 4545×1685×1325mm ■ Wheelbase: 2510mm ■ Track (front/rear): 1380/1370mm ■ Vehicle Weight: 1220kg ■ Seating Capacity: 5 ■ Engine Type: 13B ■ Displacement: 654cc×2 ■ Maximum Output: 135PS/6000rpm ■ Maximum Torque: 19.0kg-m/4000rpm (JIS gross) ■ Transmission: 5-speed Manual/3-speed Automatic

Luce Legato/Mazda 929L

1977 – 1981

Launched in October 1977 as the top of the Luce series. The Luce Legato's development concepts were high quality, grace, and distinction. Two rotary engine options, type 13B with 135PS and 12A with 125PS, were available. Two body styles, the 4-door Pillared Hardtop and the 4-door Sedan, were also offered. To meet various market segments, Mazda offered 3 versions and 10 types for the Pillared Hardtop, 4 versions and 10 types for the Sedan, and 3 types (with manual, automatic, and column-shift automatic transmission) for the top version, the 13B-powered Limited.

Major Specifications of the Luce Legato 4-door Hardtop:
■ Length×Width×Height: 4625×1690×1385mm ■ Wheelbase: 2610mm ■ Track (front/rear): 1430/1400mm ■ Vehicle Weight: 1225kg ■ Seating Capacity: 5 ■ Engine Type: 13B ■ Displacement: 654cc×2 ■ Maximum Output: 135PS/6000rpm ■ Maximum Torque: 19.0kg-m/4000rpm (JIS gross) ■ Transmission: 5-speed Manual/3-speed Automatic

Savanna RX-7/Mazda RX-7

1978 – 1985

The first generation RX-7 was launched in March 1978. The front mid-ship layout with an improved 12A engine and the then-unique retractable headlights helped realized an aerodynamic body design. This model became extremely popular not only in Japan but also in North America. A face-lift was made in 1980, the new 6PI engine was installed in 1981, and the 12A turbo rotary engine, which developed 165PS added in 1983.

Major Specifications:
■ Length×Width×Height: 4285×1675×1260mm ■ Wheelbase: 2420mm ■ Track (front/rear): 1420/1400mm ■ Vehicle Weight: 1005kg ■ Seating Capacity: 4 ■ Engine Type: 12A ■ Displacement: 573cc×2 ■ Maximum Output: 130PS/7000rpm ■ Maximum Torque: 16.5kg-m/4000rpm (JIS gross) ■ Transmission: 5-speed Manual/3-speed Automatic

Cosmo

1981 – 1990

The third-generation Cosmo, launched in October 1981, was developed as a high-end personal car to meet the requirements of the day. Three body variations were offered: 2-door and 4-door hardtops, and saloon. The 6PI type 12A rotary engine was originally installed; type 13B, with its electronically controlled super-injection system, and type 12A with the Impact-Turbo, the world's first turbo rotary engine, were added later. Equipped with four-wheel independent and electronically controlled suspension, the Cosmo was fast and a pure pleasure to drive.

Major Specifications of the Cosmo 2-door Hardtop:
■ Length×Width×Height: 4640×1690×1340mm ■ Wheelbase: 2615mm ■ Track (front/rear): 1430/1425mm ■ Vehicle Weight: 1170kg ■ Seating Capacity: 5 ■ Engine Type: 12A ■ Displacement: 573cc×2 ■ Maximum Output: 130PS/7000rpm ■ Maximum Torque: 16.5kg-m/4000rpm (JIS gross) ■ Transmission: 5-speed Manual/3-speed Automatic

Luce/Mazda 929

1981 – 1986

The 3rd generation Luce was launched in October 1981, at the same time as the Cosmo. The series included a 4-door sedan and a hardtop, powered by a 2.0-liter reciprocating or a 12A rotary engine. Like the Cosmo, the rotary engine model employed Mazda's first 4-wheel independent suspension system. Later, the Luce underwent a major face-lift and got an extensively modified nose and rear end. The new top range models, powered by a turbochaged 12A or dynamic supercharger-equipped 13B rotary engine, became popular in the market as a luxury car with performance and elegance.

Major Specifications of the Luce 4-door Hardtop:
■ Length×Width×Height: 4640×1690×1360mm ■ Wheelbase: 2615mm ■ Track (front/rear): 1430/1420mm ■ Vehicle Weight: 1165kg ■ Seating Capacity: 5 ■ Engine Type: 12A ■ Displacement: 573cc×2 ■ Maximum Output: 130PS/7000rpm ■ Maximum Torque: 16.5kg-m/4000rpm (JIS gross) ■ Transmission: 5-speed Manual/3-speed Automatic

Savanna RX-7/Mazda RX-7

1985 – 1992

The second-generation RX-7 was launched in October 1985, with further upgraded styling and dynamic performance. The 13B rotary engine with Twin-Scroll Turbo and intercooler developed maximum power of 185PS. Mazda's unique multi-link rear suspension with toe-control capability also came as standard. The interior was designed with a perfect blend of harmony, beauty, and sportiness; the result was a "matured" sports car. In 1987, the Cabriolet was added; in 1989, the engine's maximum output was raised to 205PS.

Major Specifications:
■ Length×Width×Height: 4310×1690×1270mm ■ Wheelbase: 2430mm ■ Track (front/rear): 1450/1440mm ■ Vehicle Weight: 1240kg ■ Seating Capacity: 4 ■ Engine Type: 13B turbo ■ Displacement: 654cc×2 ■ Maximum Output: 185ps/6500rpm ■ Maximum Torque: 25.0kg-m/3500rpm (JIS net) ■ Transmission: 5-speed Manual/4-speed Automatic

Luce

1986 – 1991

The fifth-generation Luce, launched in September 1986, was designed to couple the luxury of the top-end sedan with the sportiness of the rotary engine. The powerful turbocharged 13B rotary engine, with its 180PS maximum power, was installed. Combined with a newly developed automatic transmission, it realized smoother and quicker acceleration. The highly rigid monocoque body featured struts for the front and Mazda's unique E(Multi)-link suspension for the rear. It thus resulted in a high level of compatibility between performance and comfort as a luxury saloon.

Major Specifications:
■ Length×Width×Height: 4690×1695×1395mm ■ Wheelbase: 2710mm ■ Track (front/rear): 1440/1450mm ■ Vehicle Weight: 1500kg ■ Seating Capacity: 5 ■ Engine Type: 13B turbo ■ Displacement: 654cc×2 ■ Maximum Output: 180PS/6500rpm ■ Maximum Torque: 25.0kg-m/3500rpm ■ Transmission: 4-speed Automatic

Eunos Cosmo

1990 – 1995

The Eunos Cosmo, launched in April 1990, was the world's first series-production car with a 3-rotor rotary engine, the type 20B-REW with Sequential Twin Turbo system, developing maximum power of 280PS in a smooth and responsive manner. The body was exclusively designed for the "full-size" category in Japan, The cabin was spaced as a luxury 2 plus 2, and interior materials—leather and wood—were carefully selected at the raw material stage. The engine, suspension automatic transmission, and air-conditioning system were all electronically controlled.

Major Specifications:
■ Length×Width×Height: 4815×1795×1305mm ■ Wheelbase: 2750mm ■ Track (front/rear): 1520/1510mm ■ Vehicle Weight: 1610kg ■ Seating Capacity: 4 ■ Engine Type: 20B-REW ■ Displacement: 654cc×2 ■ Maximum Output: 280PS/6500rpm ■ Maximum Torque: 41.0kg-m/3000rpm (JIS net) ■ Transmission: 4-speed Automatic

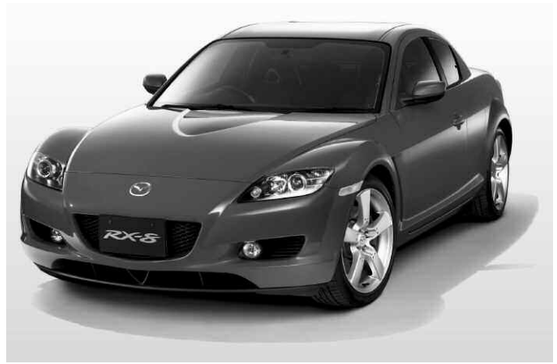
Mazda RX-7

1991 – 2002

The third-generation RX-7, launched in December 1991, featured a powerful and responsive 13B-REW rotary engine with Sequential Twin-Turbo and a superbly beautiful body silhouette. All-wheel double-wishbone suspension with newly developed dynamic geometry control mechanism was standard on all models. Developed as a pure sports car, it pursued the ultimate in driving pleasure. Face lifts came in 1996 and in 1998, and the maximum output of the 13B REW was boosted to 280PS for enhanced sports-car pleasure.

Major Specifications:
■ Length×Width×Height: 4295×1760×1230mm ■ Wheelbase: 2425mm ■ Track (front/rear): 1460/1460mm ■ Vehicle Weight: 1250kg ■ Seating Capacity: 4 ■ Engine Type: 13B-REW ■ Displacement: 654cc×2 ■ Maximum Output: 255PS/6500rpm ■ Maximum Torque: 30.0kg-m/5000rpm (JIS net) ■ Transmission: 5-speed Manual/4-speed Automatic

RX-8 — 2003 – present



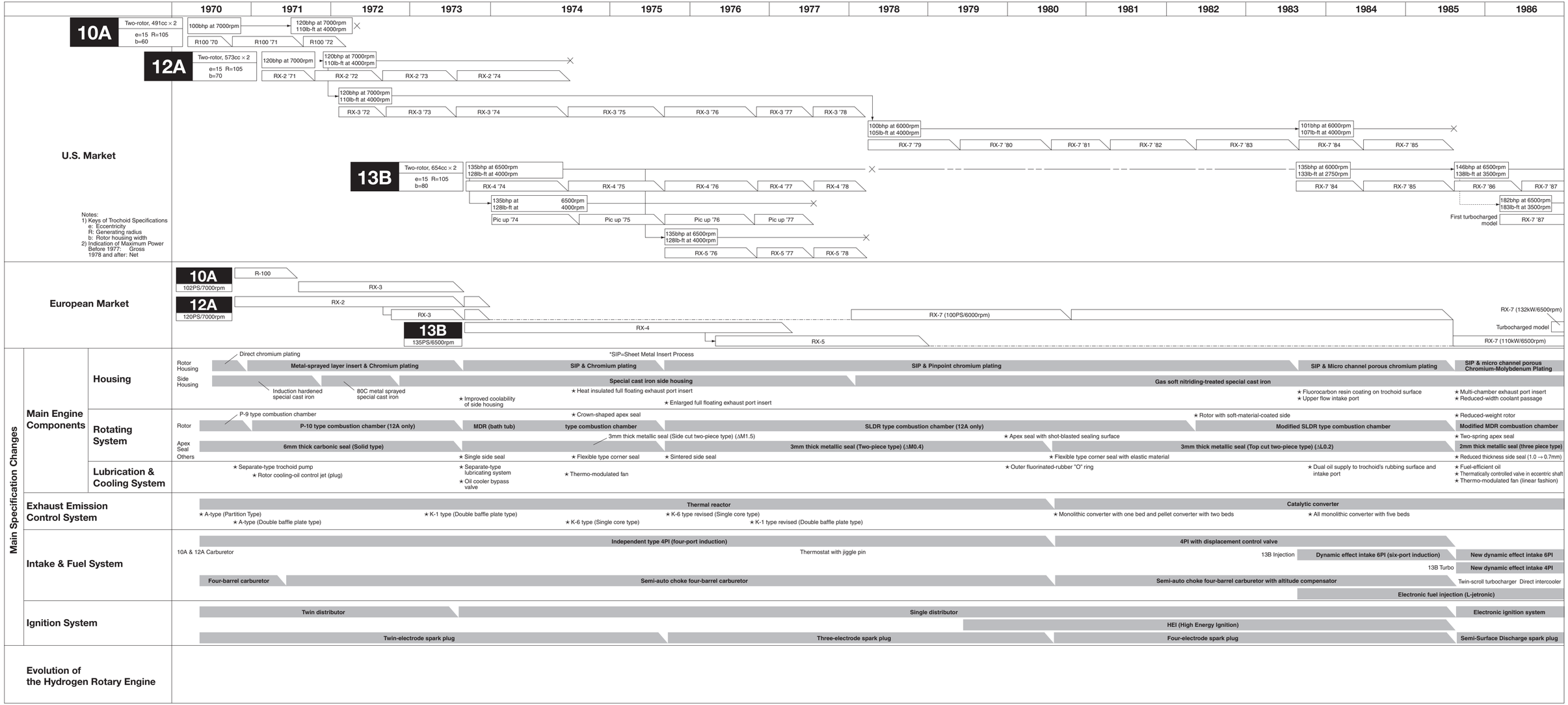
The RX-8, which debuted in April 2003, comes equipped with the new-generation RENESIS rotary engine. Though naturally aspirated, the new RENESIS maximizes the benefits of the rotary engine, while being more compact, lighter and higher performing than its predecessors. It also provides more cabin space, accommodating up to four adults in comfort. The RX-8 is a 4-door, 4-seat sports car with innovative styling. As a new-concept genuine sports car with high levels of environmental and safety performance, the RX-8 has garnered many awards, including the 2004 RJC Car of the Year Award, and enjoys considerable popularity among the car-buying public.

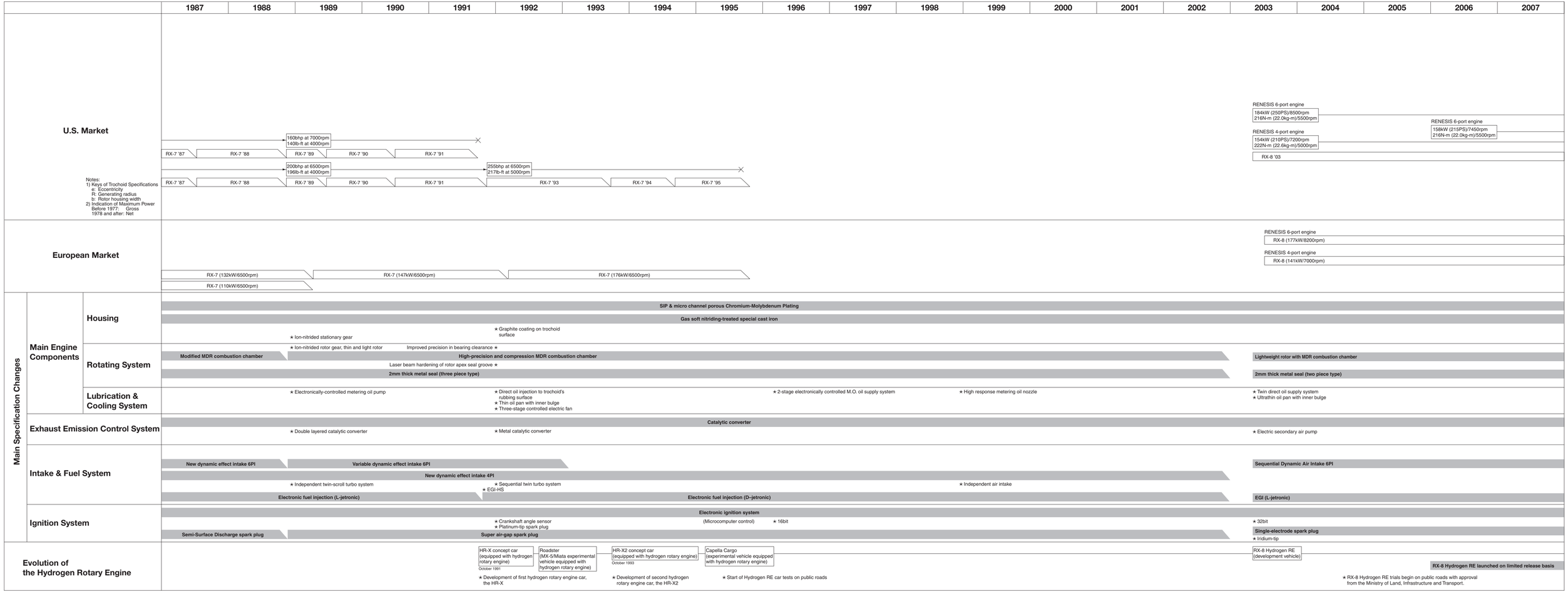
Major Specifications:
■ Length×Width×Height: 4435×1770×1340mm ■ Wheelbase: 2700mm ■ Track (front/rear): 1500/1505mm ■ Vehicle Weight: 1310kg ■ Seating Capacity: 4 ■ Engine Type: 13B-MSP ■ Displacement: 654cc×2 ■ Maximum Output (Net): 250PS/8500rpm ■ Maximum Torque (Net): 22.0kg/3000rpm ■ Transmission: 6-speed Manual

RX-8 Hydrogen RE — 2004 – present

The hydrogen-fuelled RX-8 Hydrogen RE started running on public roads in Japan on receiving approval from the Ministry of Land, Infrastructure and Transport in October 2004. With zero CO_2 emissions, the hydrogen rotary engine exhibits exceptional environmental performance while retaining the characteristic-driving feel of an internal combustion engine. To enable the RX-8 Hydrogen RE to run in areas not yet provided with hydrogen filling stations, the engine uses a dual-fuel system that switches between hydrogen and gasoline fuel modes. The base model RX-8 remains unchanged, assuring seating capacity for four as well as highly practical on-board equipment. The RX-8 Hydrogen RE, which is leased to businesses and local governments, is gaining a favourable reputation and spurring research and development towards the realization of a hydrogen energy society.

Major Specifications:
■ Length×Width×Height: 4435×1770×1340mm ■ Wheelbase: 2700mm ■ Track (front/rear): 1500/1505mm ■ Vehicle Weight: 1460kg ■ Seating Capacity: 4 ■ Engine Type: 13B ■ Displacement: 654cc×2 ■ Maximum Output (Net): Hydrogen 109PS, Gasoline 210PS ■ Maximum Torque (Net): Hydrogen 14.3kg-m, Gasoline 22.6kg-m ■ Transmission: 4-speed Automatic ■ Fuel: Hydrogen/gasoline dual-fuel system


1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
U.S. Market
10A
Two-rotor, 491cc × 2
e=15 R=105
b=60
100bhp at 7000rpm
120bhp at 7000rpm
110lb-ft at 4000rpm
R100 '70
R100 '71
R100 '72
12A
Two-rotor, 573cc × 2
e=15 R=105
b=70
120bhp at 7000rpm
120bhp at 7000rpm
110lb-ft at 4000rpm
RX-2 '71
RX-2 '72
RX-2 '73
RX-2 '74
120bhp at 7000rpm
110lb-ft at 4000rpm
RX-3 '72
RX-3 '73
RX-3 '74
RX-3 '75
RX-3 '76
RX-3 '77
RX-3 '78
100bhp at 6000rpm
105lb-ft at 4000rpm
RX-7 '79
RX-7 '80
RX-7 '81
RX-7 '82
RX-7 '83
101bhp at 6000rpm
107lb-ft at 4000rpm
RX-7 '84
RX-7 '85
13B
Two-rotor, 654cc × 2
e=15 R=105
b=80
135bhp at 6500rpm
128lb-ft at 4000rpm
RX-4 '74
RX-4 '75
RX-4 '76
RX-4 '77
RX-4 '78
135bhp at 6000rpm
133lb-ft at 2750rpm
RX-7 '84
RX-7 '85
146bhp at 6500rpm
138lb-ft at 3500rpm
RX-7 '86
RX-7 '87
135bhp at 6500rpm
128lb-ft at 4000rpm
Pic up '74
Pic up '75
Pic up '76
Pic up '77
182bhp at 6500rpm
183lb-ft at 3500rpm
First turbocharged model
RX-7 '87
135bhp at 6500rpm
128lb-ft at 4000rpm
RX-5 '76
RX-5 '77
RX-5 '78
Notes:
1) Keys of Trochoid Specifications
e: Eccentricity
R: Generating radius
b: Rotor housing width
2) Indication of Maximum Power
Before 1977: Gross
1978 and after: Net
European Market
10A
102PS/7000rpm
R-100
RX-3
12A
120PS/7000rpm
RX-2
RX-3
RX-7 (100PS/6000rpm)
RX-7 (132kW/6500rpm)
13B
135PS/6500rpm
RX-4
RX-5
Turbocharged model
RX-7 (110kW/6500rpm)
Main Specification Changes
Main Engine Components
Housing
Direct chromium plating
*SIP=Sheet Metal Insert Process
Rotor Housing
Metal-sprayed layer insert & Chromium plating
SIP & Chromium plating
SIP & Pinpoint chromium plating
SIP & Micro channel porous chromium plating
SIP & micro channel porous Chromium-Molybdenum Plating
Side Housing
Special cast iron side housing
Gas soft nitriding-treated special cast iron
Induction hardened special cast iron
80C metal sprayed special cast iron
★ Improved coolability of side housing
★ Heat insulated full floating exhaust port insert
★ Enlarged full floating exhaust port insert
★ Fluorocarbon resin coating on trochoid surface
★ Upper flow intake port
★ Multi-chamber exhaust port insert
★ Reduced-width coolant passage
Rotating System
P-9 type combustion chamber
★ Crown-shaped apex seal
★ Rotor with soft-material-coated side
★ Reduced-weight rotor
Rotor
P-10 type combustion chamber (12A only)
MDR (bath tub)
type combustion chamber
SLDR type combustion chamber (12A only)
Modified SLDR type combustion chamber
Modified MDR combustion chamber
3mm thick metallic seal (Side cut two-piece type) (ΔM1.5)
★ Apex seal with shot-blasted sealing surface
★ Two-spring apex seal
Apex Seal
6mm thick carbonic seal (Solid type)
3mm thick metallic seal (Two-piece type) (ΔM0.4)
3mm thick metallic seal (Top cut two-piece type) (ΔL0.2)
2mm thick metallic seal (three piece type)
Others
★ Single side seal
★ Flexible type corner seal
★ Sintered side seal
★ Flexible type corner seal with elastic material
★ Reduced thickness side seal (1.0 → 0.7mm)
Lubrication & Cooling System
★ Separate-type trochoid pump
★ Rotor cooling-oil control jet (plug)
★ Separate-type lubricating system
★ Oil cooler bypass valve
★ Thermo-modulated fan
★ Outer fluorinated-rubber "O" ring
★ Dual oil supply to trochoid's rubbing surface and intake port
★ Fuel-efficient oil
★ Thermatically controlled valve in eccentric shaft
★ Thermo-modulated fan (linear fashion)
Exhaust Emission Control System
Thermal reactor
Catalytic converter
★ A-type (Partition Type)
★ A-type (Double baffle plate type)
★ K-1 type (Double baffle plate type)
★ K-6 type revised (Single core type)
★ K-6 type (Single core type)
★ K-1 type revised (Double baffle plate type)
★ Monolithic converter with one bed and pellet converter with two beds
★ All monolithic converter with five beds
Intake & Fuel System
Independent type 4PI (four-port induction)
4PI with displacement control valve
10A & 12A Carburetor
Thermostat with jiggle pin
13B Injection
Dynamic effect intake 6PI (six-port induction)
New dynamic effect intake 6PI
13B Turbo
New dynamic effect intake 4PI
Four-barrel carburetor
Semi-auto choke four-barrel carburetor
Semi-auto choke four-barrel carburetor with altitude compensator
Twin-scroll turbocharger Direct intercooler
Electronic fuel injection (L-jetronic)
Ignition System
Twin distributor
Single distributor
Electronic ignition system
HEI (High Energy Ignition)
Twin-electrode spark plug
Three-electrode spark plug
Four-electrode spark plug
Semi-Surface Discharge spark plug
Evolution of the Hydrogen Rotary Engine


1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
U.S. Market
160bhp at 7000rpm
140lb-ft at 4000rpm
RX-7 '87
RX-7 '88
RX-7 '89
RX-7 '90
RX-7 '91
200bhp at 6500rpm
196lb-ft at 4000rpm
255bhp at 6500rpm
217lb-ft at 5000rpm
RX-7 '87
RX-7 '88
RX-7 '89
RX-7 '90
RX-7 '91
RX-7 '93
RX-7 '94
RX-7 '95
RENESIS 6-port engine
184kW (250PS)/8500rpm
216N-m (22.0kg-m)/5500rpm
RENESIS 6-port engine
158kW (215PS)/7450rpm
216N-m (22.0kg-m)/5500rpm
RENESIS 4-port engine
154kW (210PS)/7200rpm
222N-m (22.6kg-m)/5000rpm
RX-8 '03
Notes:
1) Keys of Trochoid Specifications
e: Eccentricity
R: Generating radius
b: Rotor housing width
2) Indication of Maximum Power
Before 1977: Gross
1978 and after: Net
European Market
RENESIS 6-port engine
RX-8 (177kW/8200rpm)
RENESIS 4-port engine
RX-8 (141kW/7000rpm)
RX-7 (132kW/6500rpm)
RX-7 (147kW/6500rpm)
RX-7 (176kW/6500rpm)
RX-7 (110kW/6500rpm)
Main Specification Changes
Main Engine Components
Housing
SIP & micro channel porous Chromium-Molybdenum Plating
Gas soft nitriding-treated special cast iron
★ Ion-nitrided stationary gear
★ Graphite coating on trochoid surface
Rotating System
★ Ion-nitrided rotor gear, thin and light rotor
Improved precision in bearing clearance ★
Modified MDR combustion chamber
High-precision and compression MDR combustion chamber
Lightweight rotor with MDR combustion chamber
Laser beam hardening of rotor apex seal groove ★
2mm thick metal seal (three piece type)
2mm thick metal seal (two piece type)
Lubrication & Cooling System
★ Electronically-controlled metering oil pump
★ Direct oil injection to trochoid's rubbing surface
★ Thin oil pan with inner bulge
★ Three-stage controlled electric fan
★ 2-stage electronically controlled M.O. oil supply system
★ High response metering oil nozzle
★ Twin direct oil supply system
★ Ultrathin oil pan with inner bulge
Exhaust Emission Control System
Catalytic converter
★ Double layered catalytic converter
★ Metal catalytic converter
★ Electric secondary air pump
Intake & Fuel System
New dynamic effect intake 6PI
Variable dynamic effect intake 6PI
Sequential Dynamic Air Intake 6PI
New dynamic effect intake 4PI
★ Independent twin-scroll turbo system
★ Sequential twin turbo system
★ EGI-HS
★ Independent air intake
Electronic fuel injection (L-jetronic)
Electronic fuel injection (D-jetronic)
EGI (L-jetronic)
Ignition System
Electronic ignition system
★ Crankshaft angle sensor
★ Platinum-tip spark plug
(Microcomputer control)
★ 16bit
★ 32bit
Semi-Surface Discharge spark plug
Super air-gap spark plug
Single-electrode spark plug
★ Iridium-tip
Evolution of the Hydrogen Rotary Engine
HR-X concept car (equipped with hydrogen rotary engine)
October 1991
Roadster (MX-5/Miata experimental vehicle equipped with hydrogen rotary engine)
HR-X2 concept car (equipped with hydrogen rotary engine)
October 1993
Capella Cargo (experimental vehicle equipped with hydrogen rotary engine)
RX-8 Hydrogen RE (development vehicle)
RX-8 Hydrogen RE launched on limited release basis
★ Development of first hydrogen rotary engine car, the HR-X
★ Development of second hydrogen rotary engine car, the HR-X2
★ Start of Hydrogen RE car tests on public roads
★ RX-8 Hydrogen RE trials begin on public roads with approval from the Ministry of Land, Infrastructure and Transport.

Mazda Rotary Engine: Chronological Table

Date	
1588	Ramelli invented the first rotary piston type water pump.
1636	Pappenheim invented a gear type pump.
1769	James Watt invented the first rotary steam engine.
1799	Murdock also invented a rotary steam engine and succeeded in generating power.
1901	Cooley manufactured a rotary steam engine in which both inner and outer rotors rotate.
1908	Umpleby advanced Cooley's steam engine into a rotary type internal combustion engine.
1923	Wallinder, Skoog, and Lundby announced their joint research on the rotary engine.
1938	Sensaud de Lavou further advanced the rotary theory.
1943	Maillard devised a compressor by applying the rotary theory.
1951	Felix Wankel collaborated with NSU to promote his rotary engine research and development.
1957	Wankel/NSU built a prototype DKM rotary engine.
1958	Wankel/NSU built a prototype KKM rotary engine.
Jul. 1959	Wankel completed the type KKM250 rotary engine.
Jan. 1960	Wankel/NSU tested their rotary engine in public.
Jul. 1961 **Nov. 1961**	Mazda made a technical contract with NSU and Wankel. Mazda completed its own first prototype rotary engine.
Apr. 1963	Mazda organized Rotary Engine Research Department.
Sep. 1964	A prototype sports car powered by a rotary engine is unveiled at the Tokyo Motor Show.
May 1967	Mazda announced the completion of the rotary engine. The Cosmo Sport was introduced into the domestic market.
Jul. 1968	The Familia Rotary Coupe was introduced.
Sep. 1969 **Oct. 1969**	Mazda exported rotary engine cars for the first time (to Australia and Thailand). The Luce Rotary Coupe (front-wheel-drive) was introduced. Mazda's rotary engine car cleared the US Federal Government emissions test.
Apr. 1970 **May 1970** **Jun. 1970** **Dec. 1970**	Mazda received award from Japanese Mechanical Engineering Society for the commercialization of the rotary engine. Export of rotary engine cars to Europe (Switzerland) started. The Capella Rotary (powered by 12A unit) was introduced. Export of rotary engine cars to the United States started. Cumulative production of rotary engine cars reached 100,000 units.
Sep. 1971 **Oct. 1971**	The Savanna Rotary was introduced. Cappella G, the first rotary-powered automobile with an automatic transmission, was introduced. Cumulative production of rotary engine cars reached 200,000 units.
Jan. 1972 **Oct. 1972**	The Capella Rotary Coupe completed 100,000km endurance run, through eleven European countries and with its engine fully sealed. The first series production car with full emission control package, the Luce Rotary was introduced.

Date	
Feb. 1973 **May 1973** **Jun. 1973** **Dec. 1973**	Mazda's rotary engine car cleared the U.S. 1975 emission standards, and this fact was confirmed by EPA test. Luce AP (REAPS-2) was the first vehicle approved under the anti-pollution incentive tax in Japan. Cumulative production of rotary engine cars reached 500,000 units. The Luce AP Grand Tourismo powered by 13B engine was introduced.
Jul. 1974	The Parkway Rotary 26 was introduced.
Mar. 1975 **Oct. 1975**	The Roadpacer was introduced. The Cosmo AP was introduced featuring a low emission rotary engine with 40% improved fuel-efficiency.
Jul. 1977 **Oct. 1977**	Cosmo L Landau top was introduced. Luce Legato was introduced.
Mar. 1978 **Nov. 1978**	The Savanna RX-7 was introduced. Cumulative production of rotary engine cars reached 1,000,000 units.
Oct. 1981	The New Cosmo and Luce Rotary were introduced.
Aug. 1982	The world's first turbo-charged rotary engine model was added to the Luce/Cosmo (929) series.
Sep. 1983	The RX-7 was face-lifted and the world-first turbo rotary engine model was added.
Oct. 1985	The RX-7 was entirely redesigned.
Apr. 1986 **Sep. 1986**	Cumulative production of rotary engine cars reached 1,500,000 units. The Luce was entirely redesigned.
Apr. 1990	The Eunos Cosmo debuted featuring the world's first three-rotor rotary engine (20B-REW).
Jun. 1991 **Oct. 1991** **Dec. 1991**	The Mazda 787B achieved overall win at the 59th Le Mans 24 Hours race. The HR-X concept car (with hydrogen RE) was unveiled at the Tokyo Motor Show. The RX-7 was completely redesigned (with a 255PS 13B-REW unit).
Oct. 1993	The HR-X2 concept car (with hydrogen RE) was unveiled at the Tokyo Motor Show.
May 1995 **Oct. 1995**	First public road trials of a hydrogen RE vehicle in Japan. The RX-01 concept car (powered by a type MSP-RE experimental engine) was unveiled at the Tokyo Motor Show.
Jan. 1996	The RX-7 was face-lifted (engine output increased to 265PS).
Dec. 1998	The RX-7 was face-lifted (engine output increased to 280PS).
Oct. 1999	The RX-EVOLV concept car with the RENESIS experimental engine was unveiled at the Tokyo Motor Show.
Oct. 2001	A design prototype of the Mazda RX-8 (powered by the RENESIS) was unveiled at the Tokyo Motor Show.
Apr. 2003	The Mazda RX-8 (with the RENESIS) introduced.
Oct. 2003	RX-8 Hydrogen RE (development vehicle) was unveiled.
Oct. 2004	RX-8 Hydrogen RE trials began on public roads with approval from the Ministry of Land, Infrastructure and Transport.
Feb. 2006	RX-8 Hydrogen RE launched on limited release basis

History of Mazda's Motor Sports Activities

Date		Event	Model	Result
1968	**Aug.**	Marathon de la Route 84-hour	Cosmo 110S	4th overall
1969	**Apr.**	Singapore Grand Prix (Touring car race)	R 100 coupe	1st overall
	Jul.	Spa-Francorchamps 24-hour	R 100 coupe	5th, 6th overall
	Aug.	Marathon de la Route 84-hour	R 100 coupe	5th overall
	Nov.	All Japan Suzuka Automobile race (Grand Cup)	R 100 coupe	1st overall
1970	**Jun.**	RAC Tourist Trophy	R 100 coupe	8th, 10th, 12th overall
	Jul.	West Germany Touring-car Grand Prix	R 100 coupe	4th, 5th, 6th overall
	Jul.	Spa-Francorchamps 24-hour	R 100 coupe	5th overall
1971	**Jul.**	Fuji 1000km	RX-2	1st class, 3rd overall
	Dec.	Fuji Tourist Trophy	RX-3	1st overall
1972	**May**	Japan Grand Prix (T-b race)	RX-3	1st, 2nd, 3rd overall
	Aug.	All Japan Suzuka 300km Touring car	RX-3	1st overall
	'72	Fuji Grand Champion series (super touring car class)	RX-3	Champion
1973	**May**	Japan Grand Prix (TS-b race)	RX-3	1st overall
	Aug.	Suzuka Great 20 Drivers (T-race)	RX-3	1st overall
	'73	Fuji Grand Champion series (super touring car class)	RX-3	Champion
1974	**Sep.**	Fuji Inter 200 mile	Sigma GC73-Mazda	2nd overall
	Dec.	Fuji Tourist Tropy	RX-3	1st overall
1975	**May**	Japan Grand Prix (TS/GTS-B race)	RX-3	1st overall
	Oct.	Fuji Masters 250km race (Super T & GT-B race)	RX-3	1st overall
	'75	Fuji Grand Champion series (super T & GT class)	RX-3	Champion
1976	**May**	Japan Grand Prix (TS/GTS-B race)	RX-3	1st overall (RX-3's 100th win in domestic races)
	Sep.	Fuji Inter 200 mile (super T & GT race)	RX-3	1st overall
	'76	Fuji Grand Champion series (super T & GT class)	RX-3	Champion
1977	**May**	Fuji 1000km	March 75S-Mazda	1st overall
	Sep.	Fuji Inter 200 mile	March 76S-Mazda	1st overall
	Dec.	Fuji 500 mile	March 75S-Mazda	1st overall
	'77	Fuji Grand Champion Series (ST race)	RX-3	Champion
		Fuji Long-distance series	March 75S-Mazda	Champion
1978	**May**	Japan Grand Prix (TS/GTS-B race)	RX-3	1st overall
	Jul.	Fuji 1000km	March 75S-Mazda	1st overall
	Sep.	Fuji Inter 200 mile	March 76S-Mazda	1st overall
	Nov.	Fuji Victory 200km	March 75S-Mazda	1st overall
	'78	Fuji Long-distance series	March 75S-Mazda	Champion
1979	**Feb.**	IMSA Daytona 24-hour	RX-7	1st, 2nd in GTU (5th, 6th overall)
	Apr.	Fuji 500km	March 76S-Mazda	1st overall
	Sep.	Fuji Inter 500 mile	MCS-Mazda	1st overall
	Oct.	Fuji Masters 250km	KR-1-Mazda	1st overall
	'79	British Saloon Car Championship (1600 ~ 2300cc)	RX-7	Champion

● WEC=World Endurance Championship ● WRC=World Rally Championship ● ERC=European Rally Championship ● WSPC=World Sport Prototype Car Championship
● SWC=Sportcar World Championship ● ▬=series champion

Date		Event	Model	Result
1980	**Mar.**	Fuji 300km Speed	MCS-Mazda	1st overall
	Sep.	Fuji Inter 200 mile	KR-1-Mazda	1st overall
	'80	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		IMSA series RS class	RX-3	Champion (Manufacturers')
		British Saloon Car Championship (1600 ~ 2300cc)	RX-7	Champion
1981	**Apr.**	Suzuka 500km	KR-1-Mazda	1st overall
	'81	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		SCCA Pro Rally series	RX-7	Champion (Manufacturers' & Drivers')
		British Saloon Car Championship (1600 ~ 2300cc)	RX-7	Champion
		Belgium Touring Car Championship	RX-7	Champion
1982	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTO (4th overall), 1st in GTU (6th overall)
	Jun.	WEC Le Mans 24-hour	RX7-254	14th overall
	Jun.	WRC New Zealand Rally	RX-7	1st in class (5th overall)
	Oct.	WEC Fuji 6-hour	RX-7-254	1st in class (6th overall)
	'82	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		Australian Endurance championship	RX-7	Champion (Manufacturers' & Drivers')
1983	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTO (3rd overall), 1st in GTU (12th overall)
	Jun.	WEC Le Mans 24-hour	Mazda 717C	1st, 2nd in Gp. C-junior (12th, 18th overall)
	Jun.	Fuji Inter 200 mile	MCS III-Mazda	1st overall
	'83	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		Australian Endurance championship	RX-7	Champion (Manufacturers' & Drivers')
1984	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTU (12th overall)
	Jun.	WRC Acropolis Rally	RX-7	9th overall
	Jun.	WEC Le Man 24-hour	Mazda Lola T616	1st, 3rd in Gp. C-2 (10th, 12th overall)
			Mazda 727C	4th, 6th in Gp. C-2 (15th, 20th overall)
	Jul.	ERC Poland Rally	RX-7	1st overall
	Jul.	Fuji 1000km	Taku Mazda 83C	1st overall
	'84	Fuji JSS series	RX-7	Champion
		IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers') (Fifth consecutive champion—new record in IMSA series)
		IMSA series GTU class	RX-7	Champion (Drivers')
		Australian Endurance championship	RX-7	Champion (Manufacturers' & Drivers')
1985	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTU (12th overall)
			RX-7	2nd in GTO (11th overall)
			Mazda Argo JM16	1st in Camel Light (10th overall)
	May	WRC Acropolis Rally	RX-7	3rd, 6th overall
	Jun.	WEC Le Mans 24-hour	Mazda 737C	3rd, 6th in Gp. C-2 (19th, 24th overall)
	Aug.	IMSA series	RX-7	67th win in IMSA series (Breaking Porsche's record of 66 wins)
	Nov.	WRC RAC Rally	RX-7	9th, 10th overall
	'85	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		IMSA series Camel Light class	Mazda Argo JM16	Champion (Engine Manufacturers' & Drivers')
		SCCA Pro Rally series	4WD RX-7	Champion (Manufacturers')

Date		Event	Model	Result
1986	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTU (8th overall)
			Mazda Argo	1st in Camel Light (7th overall)
	Feb.	Suzuka 500 km	Mazda 757	6th overall (Three-rotor rotary-powered Mazda 757 debuted)
	Aug.	A specially prepared Mazda RX-7 established a new C/Grand Touring Class land speed record of 238.442 miles per hour in the 38th annual Bonneville National Speed Trials held on the Bonneville Salt Flats in Utah, U.S.A.		
	'86	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		IMSA series Camel Light class	Mazda Argo	Champion (Engine Manufacturers' & Drivers')
1987	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTU (10th overall)
	Jun.	WSPC Le Mans 24-hour	Mazda 757	7th overall
	Sep.	WSPC Fuji 1000 km	Mazda 757	7th overall
	'87	IMSA series GTU class	RX-7	Champion (Manufacturers' & Drivers')
		IMSA series Camel Light class	Mazda Argo	Champion (Engine Manufacturers' & Drivers')
1988	**Feb.**	IMSA Daytona 24-hour	RX-7	1st in GTU (15th overall)
	Apr.	Suzuka 500 km	Mazda 767	7th overall (Four-rotor rotary-powered Mazda 767 debuted)
	Jun.	WSPC Le Mans 24-hour	Mazda 757	15th overall
			Mazda 767	17th, 19th overall
1989	**Feb.**	IMSA Daytona 24-hour	Mazda 767B	5th overall
			RX-7	1st in GTU (12th overall)
	Jun.	WSPC Le Mans 24-hour	Mazda 767B	7th, 9th, 12th overall
	'89	IMSA series GTU class	RX-7/MX-6	Champion (Manufacturers')
1990	**Feb.**	IMSA Daytona 24-hour	RX-7	2nd in GTO (7th overall)
			Mazda Argo	1st in Camel Light class (9th overall)
			RX-7	1st in GTU (12th overall) (Nine-year consecutive winner in GTU since 1982)
	May	IMSA Heartland Park 2-hour	RX-7	1st overall (1st in GTO) (First time for four-rotor rotary-powered GTO race car)
	Sep.	IMSA San Antonio 300km	RX-7	1st overall (100 victories overall in IMSA series)
	'90	IMSA series GTU class	RX-7/MX-6	Champion (Manufacturers')
1991	**Feb.**	IMSA Daytona 24-hour	RX-7/MX-6	1st in GTU (13th overall)/2nd in GTU (15th overall)
	Jun.	SWC Le Mans 24-hour	Mazda 787B/787	1st, 6th, 8th overall
	'91	IMSA series GTO class	RX-7	Champion (Manufacturers' & Drivers')
1992	**Feb.**	IMSA Daytona 24-hour	RX-7/MX-6	1st in GTU (7th overall)/2nd in GTU (12th overall) (11 consecutive wins in GTU at the Daytona 24-hour)
	Apr.	Bathurst 12-hour	RX-7	1st, 5th overall
	May	IMSA GTP class	Mazda RX-792P	3rd, 4th
	Jun.	IMSA GTP class	Mazda RX-792P	2nd
1993	**Jan.**	IMSA Daytona 24-hour	RX-7	1st in GTU (12-year consecutive winner in GTU since 1982)
	Apr.	Bathurst 12-hour	RX-7	1st overall
1994	**Apr.**	Bathurst 12-hour	RX-7	1st overall (3-year consecutive winner overall)
1995	**Aug.**	Intercreek 12-hour	RX-7	1st overall (Race site was changed to Intercreek from Bathurst. 4-year consecutive winner overall, succeeding results in Bathurst.)

Production Units of Rotary Engine Vehicles by Model

Year	110S (Cosmo Sport)	R110 (Familia)	R130 Coupe/RX-4 (Luce)	RX-2 (Capella)	RX-3 (Savanna)	Rotary Pickup	Parkway	Roadpacer	RX-5 (Cosmo)	RX-7	Eunos Cosmo	RX-8	Total units	Cumulative production units
1967	343												343	**343**
1968	172	6,925											7,097	**7,440**
1969	159	28,041	542										28,742	**36,182**
1970	258	31,238	431	34,242									66,169	**102,351**
1971	126	21,907	3	63,389	33,004								118,429	**220,780**
1972	118	5,720	10,903	58,433	79,719								154,893	**375,673**
1973		2,060	77,028	54,962	105,819	2							239,871	**615,544**
1974			66,998	7,656	29,678	14,364	18						118,714	**734,258**
1975			41,668	5,960	26,236	113	18	491	12,014				86,500	**820,758**
1976			13,284	553	9,825	632	8	183	43,792				68,277	**889,035**
1977			13,480	253	1,606	1,161		126	25,273				41,899	**930,934**
1978			6,484	240					1,561	72,692			80,977	**1,011,911**
1979			5,705						5,896	71,617			83,218	**1,095,129**
1980			4,213						1,108	56,317			61,638	**1,156,767**
1981			2,292						2,785	55,321			60,398	**1,217,165**
1982			2,046						4,170	59,686			65,902	**1,283,067**
1983			1,402						3,026	57,864			62,292	**1,345,359**
1984			1,349						3,477	63,959			68,785	**1,414,144**
1985			506						1,062	63,105			64,673	**1,478,817**
1986			2,533						265	72,760			75,558	**1,554,375**
1987			633						60	52,204			52,897	**1,607,272**
1988			1,048						22	34,592			35,662	**1,642,934**
1989			395						8	37,624			38,027	**1,680,961**
1990			318							29,411	4,325		34,054	**1,715,015**
1991										16,623	1,700		18,323	**1,733,338**
1992										26,899	1,373		28,272	**1,761,610**
1993										6,801	711		7,512	**1,769,122**
1994										5,962	435		6,397	**1,775,519**
1995										5,202	331		5,533	**1,781,052**
1996										4,762			4,762	**1,785,814**
1997										3,556			3,556	**1,789,370**
1998										1,423			1,423	**1,790,793**
1999										4,151			4,151	**1,794,944**
2000										2,611			2,611	**1,797,555**
2001										2,589			2,589	**1,800,144**
2002										3,903			3,903	**1,804,047**
2003												60,100	60,100	**1,864,147**
2004												50,813	50,813	**1,914,960**
2005												27,837	27,837	**1,942,797**
2006												23,363	23,363	**1,966,160**
Cumulative production units	**1,176**	**95,891**	**253,261**	**225,688**	**285,887**	**16,272**	**44**	**800**	**104,519**	**811,634**	**8,875**	**162,113**	**1,966,160**	**1,966,160**

List of Awards Related to Mazda's Rotary Engine

Awards	(Country)	Date	Awarded by	Awarded for or as
Masuda Award	(Japan)	Jan. 1968	The Daily Industrial News	Development of the rotary engine
Foreign Car Award for 1968	(U.S.A.)	Feb. 1968	Motor Trend	Putting the world's first 2-rotor rotary engine into mass production
Chugoku Cultural Award	(Japan)	Nov. 1968	The Chugoku Shimbun	Ditto
Commendation by Minister of State for Science & Technology	(Japan)	Apr. 1969	Science and Technology Agency	Ditto
Japan Society for the Promotion of Machine Industries Awards	(Japan)	Oct. 1969	Japan Society for the Promotion of Machine Industries	Development of the rotary engine
JSME MEDAL	(Japan)	Apr. 1970	The Japan Society of Mechanical Engineers (JSME)	Ditto
RX-2 (Capella) '1972 Car of the Year'	(Japan)	Jan. 1972	Motor Fan	The best Japanese passenger car in 1972
RX-2 (Capella) '1972 Car of the Year'	(U.S.A.)	Jan. 1972	Road Test	The best American passenger car in 1972
The Mainichi Industrial Technology Award	(Japan)	Dec. 1972	Mainichi Newspapers	Development of the carbon-based apex seal
Invention Prize	(Japan)	1974	Japan Institute of Invention and Innovation	Development of the forced air-cooled Thermal Reactor
Environmental Prize of Merit	(Japan)	Jun. 1976	Environment Agency	Contribution to reduction of exhaust pollutants
RX-7 (Savanna RX-7) '1979 Car of the Year'	(Japan)	Jan. 1979	Motor Fan	The best passenger car in 1979
RX-7 (Savanna RX-7) 'Car of the Decade'	(Japan)	1980	Motor Fan	The best Japanese passenger car in the last 10 years
Nakagawa Award	(Japan)	May 1982	Society of Automotive Engineers of Japan, Inc.	Research and development of the rorary engine with 6PI
Grand Prize of Local Commendation for Invention	(Japan)	Nov. 1984	Japan Institute of Invention and Innovation	Development of the rotary engine with 6PI
Japan Society for the Promotion of Machine Industries Award	(Japan)	Nov. 1984	Japan Society for the Promotion of Machine Industries	Development of the rotary engine with Super Injection, a combination between 6PI and electronically-controlled gas injection (EGI)
JSAE Technological Contribution Prize	(Japan)	Oct. 1985	Society of Automotive Engineers of Japan, Inc.	Putting the rotary engine into practical use
RX-7 1986 'Import Car of the Year'	(U.S.A.)	Jan. 1986	Motor Trend	The 1986 best import passenger car in the U.S.
Commendation by Minister of State for Science & Technology	(Japan)	Apr. 1989	Science and Technology Agency	Development and improvement of a new intake system for the rotary engine
RX-7 (Anfini RX-7) 'RJC Car of the Year'	(Japan)	Dec. 1991	RJC (Automotive Researcher's & Journalists' Conference of Japan)	Best Domestic Vehicle of 1991
Kenichi Yamamoto, Chairman of the Board 'RJC Man of the Year'	(Japan)	Dec. 1991	RJC (Automotive Researcher's & Journalists' Conference of Japan)	Automotive Industry Figure of 1991
RX-7 (Anfini RX-7) 'Import Car of the Year'	(U.S.A.)	Jan. 1993	Motor Trend	Best Import Car of 1993 in the U.S.
Fiscal 1996 Award for Young Engineers	(Japan)	Apr. 1996	The Japan Society of Mechanical Engineers (JSME)	Numerical Study of the Flow Field Inside Rotary Engines
RENESIS 'International Engine of the Year'		May 2003	Engine Technology International	The world's best engine in 2003
RX-8 'RJC Car of the Year'	(Japan)	Nov. 2003	RJC (Automotive Researchers' & Journalists' Conference of Japan)	Best Domestic Vehicle of 2003
RENESIS 'RJC Technology of the Year'	(Japan)	Nov. 2003	RJC (Automotive Researchers' & Journalists' Conference of Japan)	Best Automotive Technology of 2003
RENESIS 'JSME (Japan Society of Mechanical Engineers) Medal (Technology)'	(Japan)	May 2004	Japan Society of Mechanical Engineers	Development of automobile rotary engine with side-exhaust port system