



NIPPONDENSO-TOYOTA 88C
Challenges
24 HEURES DU MANS '89



NIPPONDENSO CO., LTD. (Headquarters: Kariya City, Aichi Prefecture, Japan; President: Taro Tanaka) will be sponsoring TOYOTA TEAM TOM'S when it enters the "24 Heures du Mans '89" Endurance Race, to be held in France on June 10 and 11, 1989. This will mark the second participation of NIPPONDENSO in the Le Mans race, following its initial participation in 1987.

TOYOTA TEAM TOM'S began its full-fledged entry in this challenging race from 1985. As a result, it has been steadily improving its performance, placing 12th in last year's race — the top position among cars from Japan.

The participating car will be NIPPONDENSO-TOYOTA 88C, and the team being planned will consist of the drivers Kaoru Hoshino and Keiichi Suzuki of Japan as well as Dider Artzet of France.

NIPPONDENSO-TOYOTA 88C sports the colors of white and red, which is the corporate color of NIPPONDENSO. Mounted with a reliable and reputed serial 4-cylinder twin-cam turbocharged engine, NIPPONDENSO-TOYOTA 88C is aiming to exhibit a top performance this year as well.



Driver Profiles

Kaoru Hoshino

Born September 1947. Age: 41 years. Nationality: Japan.

Making his debut in the motor sports world in 1967, Hoshino has focused his racing activities on touring cars. As a TOYOTA driver, he was the Fuji Minor Touring Car Champion in both 1978 and 1984.

He has been contracted as a TOM'S driver since 1982. In 1985, he entered the 24 Heures du Mans in TOYOTA-TOM'S 85C-L. The first Japanese driver to complete the entire race, he placed 12th for the series. This year, he also entered the Japan Touring Car Championship as a driver on the Trampio team, which achieved the highest overall ranking for the series. In the 24 Heures du Mans '88, he finished the series in 12th place.

Keiichi Suzuki

Born March 1949. Age 40 years. Nationality: Japan.

In 1968, Suzuki began participating in touring car races in a TOYOTA COROLLA. In 1975 and 1976, he drove the TOYOTA STARLET to become the Fuji GC Champion. From 1984, he has been driving a Group C car. He finished first in both the 2nd race of the 1985 Japan Endurance Championship (Fuji 1,000-km) and the 6th race of the 1986 Japan Endurance Championship (Fuji 500-km).

Since joining TOYOTA TEAM TOM'S in 1988, he has been active as a test driver during the development of TOYOTA 88CV and is participating in the Japan Sports Prototype Championship (JSPC) and Japan Touring Car Championship (JTC).

Didier Artzet

Born February 1963. Age: 27 years. Nationality: France.

In 1984, Artzet was the champion of the Peugeot Races (4 wins in 9 races). In 1985, he began competing in the Formula 3 races, and drove a Peugeot 505 to place first in the France F3 Championship series. In 1986, driving a Renault Turbo, he placed first in the F3 Championship for the first time. In 1987, he achieved a series ranking of 7th place during the French F3 Championship. In the 1987 Monaco F3 Grand Prix, he placed first. He was also been active in such areas as the creation of new lap records.

In 1988, he acquired the pole position in three races of the France F3 Grand Prix.



NIPPONDENSO CO.,LTD.

Company Profile

As of April 1, 1989

Established	December 16, 1949
Headquarters	1-1 Showa-cho, Kariya, Aichi Prefecture 448, Japan
	TEL: 0566-22-3311
	TELEX: 59916 (NIDENSOJ 59916)
	FAX: 0566-25-0821
Capital (as of March 1, 1989)	US\$328,000,000*
Net Sales	US\$8,855,000,000*
Net Income	US\$284,000,000*
No. of Employees	38,700
Domestic Plants	9
Domestic Offices	21
Overseas Subsidiaries and Affiliates	25
Overseas Offices	8

(Calculated at US\$1 = ¥126, the approximate exchange rate prevailing at December 31, 1988)

NEWS from TOYOTA

For immediate release
May 1989 (No. 39-89)

THREE TOYOTA CARS TO ENTER 1989 57TH LE MANS 24-HOUR ENDURANCE RACE FROM TOYOTA TEAM TOM'S

Toyota City -- TOYOTA MOTOR CORPORATION announced today that it will enter three cars, under the management of Toyota Team TOM'S, in the 57th Le Mans 24-Hour Endurance Race on June 10 and 11 in Le Mans, France. Two of the three cars will be Toyota 89C-Vs and the other will be the Toyota 88C. It will be Toyota's fifth consecutive entry since 1985. Toyota performed solidly in that year and in 1988, placing 12th overall both years.

The Toyota 89C-V is a newly developed machine with modifications on body shape, as well as a reduced engine system weight and improved fuel economy. It has already proven its overwhelming speed by winning the pole position in the first round of the WSPC at Suzuka, Japan.

TTT will embark on its challenge this year with three cars and fast drivers, Geoff Lees, Hitoshi Ogawa, and Paolo Barilla, as well as newcomers Johnny Dumfries, John Watson, and Ross Cheever. The team is expected to perform as well or even better than in past races.

The two Toyota 89C-Vs will be sponsored by Taka-Q Co., Ltd. and Minolta Camera Co., Ltd., respectively. The Toyota 88C will be sponsored by Nippondenso Co., Ltd.

Guide to Toyota Events and Facilities at the Le Mans 24-Hour Endurance Race

* Press reception

It will be held at the "Petit Welcome" hall inside circuit on Thursday, June 8, from 15:00 to 16:30.

The reception will include an introductory speech by S. Kato, director of Toyota Motor Corporation and the introduction of Toyota Team TOM'S, along with informal discussions. Snacks and drinks will be served.

* Press service booth

It will be open from Wednesday, June 7 to Sunday, June 11 next to the Toyota Team tent inside the paddock.

The following services will be available:

- TV monitor and pit information bulletin; reception for interview requests
- Latest telephoto transmission system*, fax, telephone, and copying machines
- Note (*): This system is only for color and monochrome photo transmission to Japan.
- Food and drinks

* Lounge above Toyota pit area

It will be open from Wednesday, June 7 to Sunday, June 11 above the Toyota pit area.

TV monitor and refreshment services are available.

Toyota Team TOM'S Participating Staff

Vehicles	No. 36 Minolta Toyota 89C-V	No. 37 Taka-Q Toyota 89C-V	No. 38 Denso Toyota 88C
Drivers	Hitoshi Ogawa Paolo Barilla Ross Cheever	Johnny Dumfries Geoff Lees John Watson	Kaoru Hoshino Keiichi Suzuki Didier Altzet
Team Rep.	Nobuhide Tachi		---
Director	---		Glenn Waters
Manager	Hiroshi Fushida		David Sims
Chief Engineer	Kiyoshi Ohiwa		Andy Thorby
Chief Engineer (Chassis)	Yutaka Imanishi		---
Chief Mechanic	Takehiko Watanabe	Jun Yamada	Richard Powell

Challenging the World at Le Mans -- TOM'S Ltd. and Toyota Team TOM'S

1980... Test run at Le Mans with the Celica Turbo developed with DOME

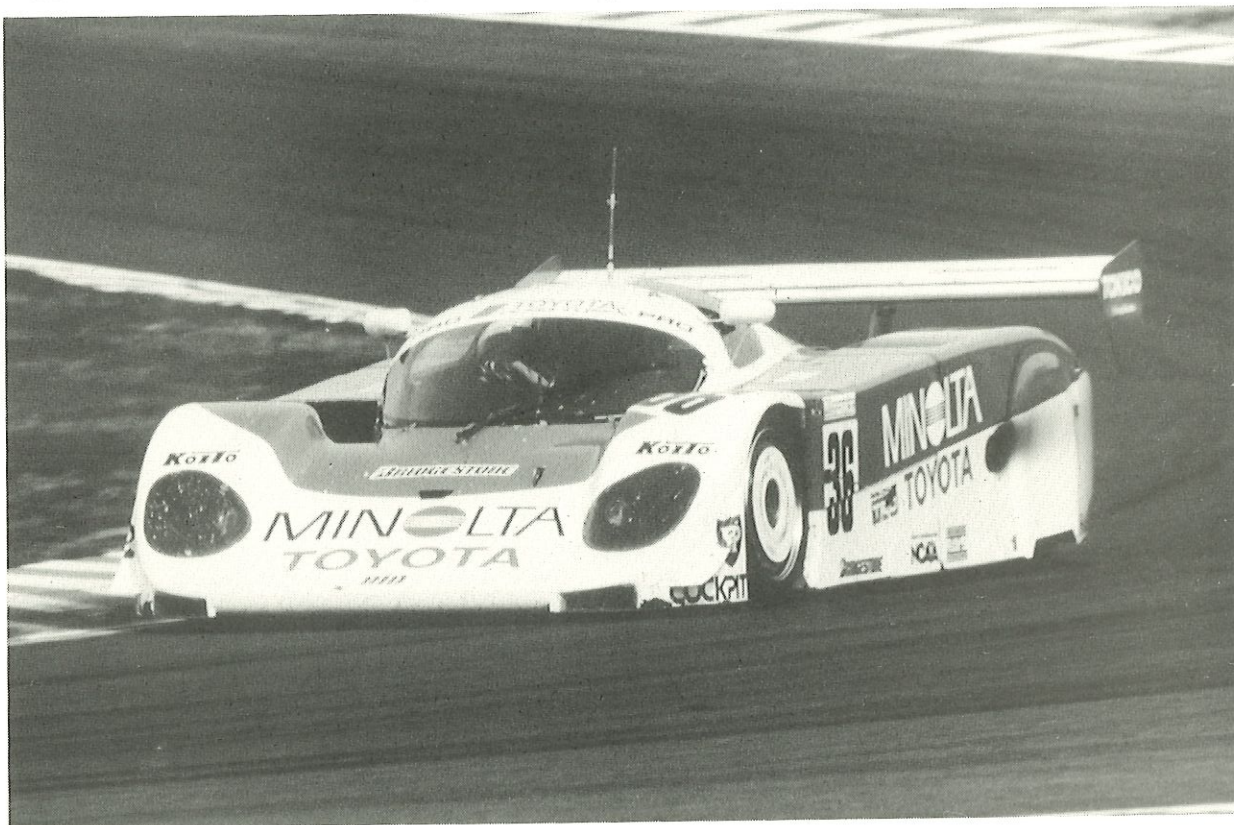
1985... In its first time actually competing in the Le Mans 24-Hour Endurance Race, the new Toyota TOM'S 85C-L, with an improved Toyota Racing 4T-GT engine, challenged the world's best. The result was a solid finish in 12th place, the best of any of the all-Japanese cars driven exclusively by Japanese drivers.

1986... The re-designed Toyota TOM'S 86C-L, the successor to the 85C-L, went to its limit at the Le Mans 24-Hour Endurance Race.

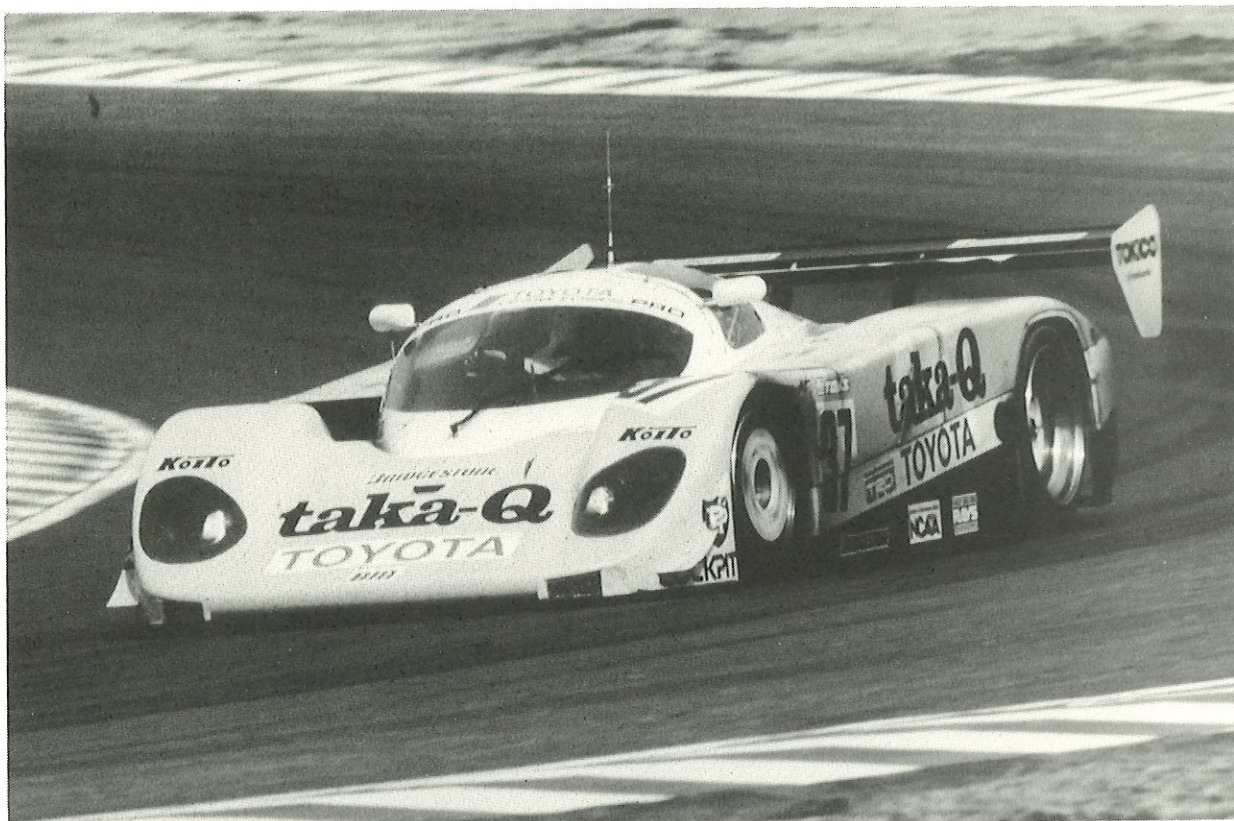
1987... TOM'S, in cooperation with Toyota Motor Corporation, established Toyota Team TOM'S. The team participated in the Le Mans 24-Hour Endurance Race, with two Toyota 87Cs mounted with modified Toyota 3S-GT racing engines.

1988... Two Toyota 88Cs, a modified version of the Toyota 87C, entered the Le Mans 24-Hour Endurance Race. One of them logged the longest distance (4,705km) for a Japanese-made car and completed the race, placing 12th in overall standings.

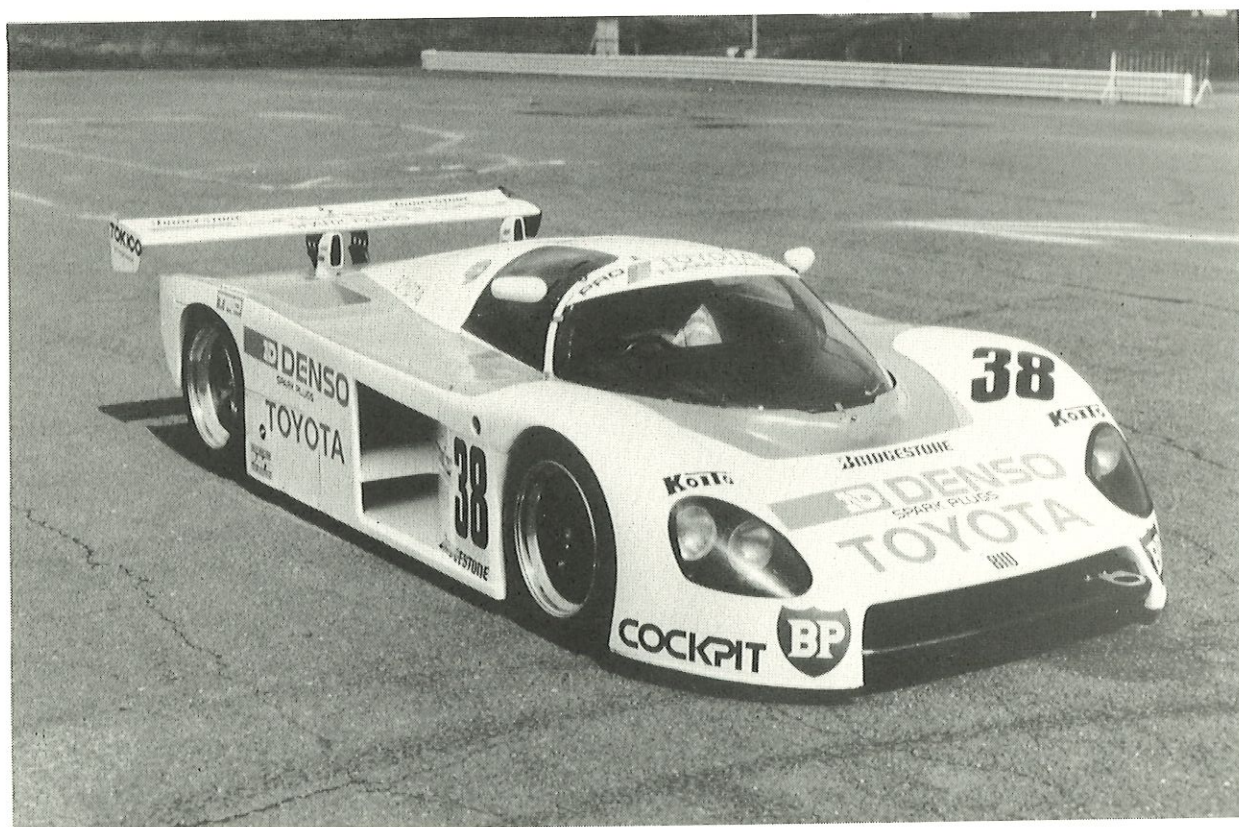
1989... Two Toyota 89C-Vs with V8, twin-turbo engines, along with one Toyota 88C with a modified 3S-GT engine, will enter the race, hoping to reach the top ranks in the Le Mans 24-Hour Endurance Race based on their past experience.



(Minolta TOYOTA 89C-V)



(Taka-Q TOYOTA 89C-V)



(Denso TOYOTA 88C)

Outline of Toyota Team TOM'S (TTT)

TOM'S Ltd. was established in 1974 by Nobuhide Tachi, a former Toyota factory team driver, as well as others including Kiyoshi Ohiwa, a former performance accessory salesman for motor sports at a Toyota dealership. The company specializes in the tuning of Toyota engines and other touring car components, as well as developing and selling competition parts.

Since its establishment, TOM'S has been actively supported by TMC in its racing activities. The team has scored a number of notable successes both in Japan and abroad.

In 1982, TOM'S developed a Group C racing car, powered by a Toyota racing engine, which took fifth place overall on the Japan World Endurance Championship tour. Overseas, TOM'S debuted at the 1985 Le Mans 24-Hour Endurance, finishing in 12th place overall.

In 1987, TOM'S and TMC formed Toyota Team TOM'S (TTT). With its accumulated experience in Group C from the All Japan Sports Prototype Championship (JSPC), including one round of the World Sports Championship (WSPC) in Japan at Fuji.

The Toyota 88C and/or 89C-V (depending on the round) with a 3,169cc, DOHC, 32-valve V8, twin-turbo engine will be entered in the WSPC.

The racing activities in the WSPC will be managed primarily by TOM'S GB Ltd.

TOM'S GB Ltd. was established in March 1987 as a subsidiary of TOM'S Co., Ltd. The president, Glenn Waters, was a member of Team Lotus (F1 team) for nine years and operated as chief mechanic when Mario Andretti grasped the World F1 Championship.

In 1987, TOM'S GB Ltd. started to take part in sales and servicing activities of the modified 3S-G engine from Toyota Team TOM'S and cars mounted with this engine placed third and fifth in the British F3 Championship, winning four of the 18 races.

In 1988, cars with the modified 3S-G engine from Toyota Team TOM'S won 12 consecutive races in the same championship and helped win the driver's championship. Also in this year, the Corolla FX entered the British touring car championship. Despite its displacement of less than 1600cc, it won nine of thirteen races in the championships and placed second in the overall standings.

The team has also been active in Group A touring car racing. It has competed in the All Japan Touring Car Championship and in the Grand Prix at Macau. It will continue to participate in 1989 with a more refined Supra Turbo, which debuted in Japan at the fourth round of the Pacific/Asian Touring Car Championship in November 1988. The Supra came in second place overall, with the promise of a bright future in 1989.

Driver Profiles (in alphabetical order)

Didier Artzet: age 26; born February 10, 1963; French

In 1984, Artzet captured four victories out of nine races and was the winner of the "Groupement des concessionnaires automobiles Peugeot." In the following year, he continued to pilot the Peugeot 505 Turbo and won the French Championship with four wins. He also started to compete in F3, showing his potential at this level of competition by capturing two second place finishes in the French F3 Championship and a first place finish at the F3 Monaco Grand Prix in 1987. In 1988, he took pole position in three races and established two lap records in the French F3 Championship. He will be participating in the All Japan Sports Prototype Championship (JSPC) and in the Le Mans 24 Hour Endurance Race.

Paolo Barilla: age 28; born April 20, 1961; Italian

Barilla debuted as a racing cart driver in 1975 and captured the Italian Racing Cart championship in 1976. He stepped up to F3 in 1981, winning two races in the Italian Championship. The following year, he raced in the European F2 Championship. Joining the Lancia team in 1983, he raced in the World Sports Prototype Car Championship (WSPC) and built up an outstanding record for the team in 1984. In 1985, he joined the Joest Racing team, capturing a win at the Le Mans 24-Hour Endurance. He also drove in the IMSA-GTP series in the U.S. that year. In 1987, he raced in the International F3000 Championship, and during 1988 he joined Toyota Team TOM'S (TTT), racing in the All Japan Sports Prototype Endurance Championship and in the Le Mans 24-Hour Endurance Race.

Ross Cheever: age 25; born April 12, 1964; American

Cheever, in 1982, debuted in Formula Ford, competing in 10 races and winning one. In the following year, he captured wins in nine Formula Ford races in the U.K. He has been actively involved in F3000 and Group C races since 1987, displaying his great potential in each of these series. This year, he joins TTT to race in JSPC and in the Le Mans 24-Hour Endurance.

Johnny Dumfries: age 31; born April 26, 1958; Scottish

Dumfries is one of a few racing drivers who has stepped rapidly up the racing career ladder. He started racing in 100cc carts in 1980 and quickly moved up to F3 to dominate the British F3 Championship in 1984, winning 10 races; in the European F3, he was the runner-up. In 1986, he was already racing in F1 for a full season with Lotus. In 1987, he started to race in the WSPC with Mercedes, Porsche, and Jaguar, showing his superb talent. In the 1988 season, he signed with Jaguar as a driver in the WSPC and selected IMSA races in the U.S. That year, at the Le Mans 24-Hour Endurance Race, he brought Jaguar its first victory in 31 years. This year, he is joining Toyota to continue racing in the WSPC and is expected to uphold his reputation as one of Britain's brightest racing stars.

Kaoru Hoshino: age 41; born September 21, 1947; Japanese

Hoshino has captured a number of wins in touring car races ever since he debuted in motor sports at the age of 20. He has been with the TOM'S since 1982 and participated in the Le Mans 24-Hour Endurance Race in 1985, piloting the TTT 85C-L. This year, he will enter competition in Group C at Le Mans.

Geoff Lees: age 38; born May 1, 1951; British

Lees began his racing career in 1972, racing in Formula Ford. In his fourth season, he won a remarkable 33 races in 40 starts. He raced in the European F2 series in 1981 for the Ralt Works Team and captured the championship. In 1982, he raced in the F1 Series for Theodore in a Lotus. He spent 1983 in the F2 Series, winning four races and capturing the All Japan title. In 1986, he signed a contract with TTT. His performances in Group C and touring car racing have been highly regarded ever since. He will remain as the key driver for the team through 1989.

Hitoshi Ogawa: age 33; February 15, 1956; Japanese

Ogawa started his career in motor sports in FL500 at the Suzuka Silver Cup. He started with formula car racing but has recently participated in touring car and Group C racing as well. His many talents have been great assets to the team. He is expected to continue his progress in 1989.

Keiichi Suzuki: age 41; born March 21, 1948; Japanese

Suzuki, active in car racing as a driver for Toyota Motor Sports Club (TMSC), made his racing debut in 1968. He became the Fuji GC Minor Touring Car Champion in 1975 and 1976. Then, after a two-year absence, he came back to drive a number of vehicles in FP, TS, and various endurance races. He participated in Group C races in Japan with Porsche in 1985 and won two victories the following year. Since 1988, he has been active as a member of TTT and has participated as a test driver in the development of the 88C-V.

John Watson: age 43; born May 4, 1946; Irish

Watson started his racing career at the age of 17 in 1963. His F1 career spanned 10 years in competition in 152 Grand Prix races, with five victories while driving for Surtees, Brabham, Penske, or McLaren. His first victory in the F1 Series was in 1976 in Austria, driving for the Roger Penske team. He was styled "The Streetfighter" by the American media after his win of the Detroit Grand Prix in 1982, in which he started from the back of the grid and passed every car in the tight street circuit. He further established his reputation with victories such as the last grand prix on the streets of Long Beach in 1983. In sports prototype racing, he has driven for the American Group 44 Jaguar team, the Porsche Rothmans team, and the BMW North America team in the IMSA series. He also contributed to the British Jaguar team in winning the Le Mans 24-Hour Endurance Race and the British Championship.

Specifications for the Toyota 89C-V

<Engine>

Model	R32V
Type	V-type 8-cylinder DOHC (32 valves)
Turbocharger	Made by Toyota (CT26RTx2)
Bore x stroke	82.0 x 75.0mm
Displacement	3,169cc
Fuel supply method	EFI (Electronic fuel injection)
Compression ratio	8.5 : 1
Maximum power	800ps/8,000rpm
Maximum torque	80.0kg-m/5,000rpm

<Body and chassis>

Dimensions Overall height Overall length Overall width Wheelbase Tread (front/rear)	1,015mm 4,790mm 1,940mm 2,725mm 1,560/1,540mm
Curb weight	900kg or more
Fuel capacity	98.5 liters
Transmission	88T (Manufactured by March)
Clutch	Triple plate
Suspension Front Rear	Double wishbone/Inboard coil spring Double wishbone/Inboard coil spring
Brake Front Rear	Lockheed 14" ventilated disk brake Lockheed 14" ventilated disk brake
Tires and wheels Front Rear	320/30R17 350/40R17

Specifications for the Toyota 88C

<Engine>

Model	Modified Toyota 3S-GT
Type	In-line 4-cylinder DOHC (16 valves)
Turbocharger	Toyota twin-entry single turbocharger (CT44ST)
Bore x stroke	89.0 x 86.0mm
Displacement	2,140cc
Fuel supply method	EFI (Electronic fuel injection)
Compression ratio	7 : 1
Maximum power	680ps/8,500rpm
Maximum torque	65.0kg-m/5,500rpm

<Body and chassis>

Dimensions Overall height Overall length Overall width Wheelbase Tread (front/rear)	1,040mm 4,625mm 1,990mm 2,700mm 1,600/1,575mm
Curb weight	850kg or more
Fuel capacity	98.5 liters
Transmission	85T (Manufactured by March)
Clutch	Borg & Beck triple plate
Suspension Front Rear	Double wishbone/Outboard coil spring Double wishbone (Rocking arm type)/ Inboard coil spring
Brake Front Rear	Lockheed 14" ventilated disk brake Lockheed 14" ventilated disk brake
Tires and wheels Front Rear	320/30R17 340/40R19