KADETT AND ASTRA

THE OPEL COMPACT CLASS

TEN GENERATIONS FROM 1936 TO 2009 –
YESTERDAY, TODAY, TOMORROW

OPEL

00-001
TRENDSETTER: OPEL'S COMPACT CARS OFTEN SERVED AS ROLE MODELS FOR THEIR CLASS – IN ADVERTISING SLOGANS, TOO. AD FROM 1969

00-002
CLASS REUNION: ALL TEN KADETT AND ASTRA GENERATIONS GET TOGETHER FOR THE FAMILY ALBUM. STILL INCOGNITO: THE NEXT ASTRA, MAKING ITS DEBUT IN 2009

1936 2009

SINCE 1936, THE KADETT AND ASTRA HAVE CONSISTENTLY PIONEERED INNOVATION IN THE COMPACT CAR SEGMENT. LIKE NO OTHER MODEL SERIES, THEY HAVE SHAPED THE FACE OF OPEL AND CARRIED IMPORTANT MESSAGES FROM THE COMPANY TO THE OUTSIDE WORLD. THESE INCLUDE EXPRESSIVE DESIGN, VERSATILITY, DYNAMIC DRIVING AND VALUE FOR MONEY.

Opel has sold more than 21 million compact models around the globe since 1936. The idea behind the success: It was the first manufacturer to develop a compact and affordable family car. Opel's confidence in the compact class concept was big enough at the time of the German economic miracle that they built a completely new production plant in Bochum in 1962 to manufacture the new car. Its success proved Opel right. One of the principles of the successful formula, however, was "never rest on your laurels." Since then, the launch of each new model has involved trendsetting technologies, with innovations such as unitary body construction (first Kadett, 1936), four-valve technology (Kadett E, 1984) and steering-linked AFL headlamps (Astra H, 2004). Then there was the Kadett D in 1979, the first Opel model to have front-wheel drive. The time will soon be here again when the next Astra is launched. And Opel will once again redefine design and technology in the compact class.

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TEN GENERATIONS FROM 1936 TO 2009: THE HIGHLIGHTS OF OPEL'S COMPACT CLASS MODELS AND A SELECTION OF THE CARS FROM THE COMPANY'S CLASSIC COLLECTION.

MILE STONE

THE CURRENT ASTRA IS MANUFACTURED AT SIX PLANTS ON TWO CONTINENTS. ABOUT A MILLION CARS A YEAR ARE BUILT BASED ON THE ASTRA, INCLUDING THE INNOVATIVE ZAFIRA COMPACT VAN.

01-001
EYECATCHER: WELL CARED-FOR KADETT FROM 1938 LOOKED SNAPPY WITH ITS ART DECO RADIATOR GRILLE AND THE OPEL ZEPPELIN EMBLEM

1936

THE FIRST KADETT GENERATION

KING EDWARD VIII ABDICATES THE ENGLISH THRONE TO MARRY AMERICAN DIVORCÉE WALLIS SIMPSON. IN THE UNITED STATES, THE FIRST EDITION OF THE PHOTO MAGAZINE "LIFE" IS PUBLISHED. CHARLIE CHAPLIN'S FILM "MODERN TIMES" IS SCREENED FOR THE FIRST TIME. EMIL LUMBECK DEVELOPS AN ADHESIVE BINDING FOR BOOKS AND MAGAZINES. THE OLYMPIC GAMES ARE HELD IN GERMANY UNDER NATIONAL SOCIALIST RULE. IN ROME, THE FOUNDATION STONE IS LAID FOR THE FILM CITY OF CINECITTÀ. THE FIRST GENERATION OF THE KADETT IS LAUNCHED.

MODEL GENERATION – FACTS AND FIGURES

SERIES	FIRST GENERATION OPEL KADETT
PRODUCTION PERIOD	1936–1940
NUMBER	107,608 (MOSKWITCH: 247,439)
BODY VARIANTS	+ TWO-DOOR SEDAN
	+ FOUR-DOOR SEDAN
	+ TWO-DOOR CONVERTIBLE
ENGINE	GASOLINE: 1.1 L/23 HP
SPECIAL CHARACTERISTICS	FIRST EVER KADETT, ADVANCED MONOCOQUE CONSTRUCTION WITH SELF-SUPPORTING UNITARY BODY

THE PEOPLE'S CAR

THE FIRST OPEL KADETT WAS A MINOR SENSATION, BOTH TECHNICALLY AND IN TERMS OF PRICE. MORE THAN 100,000 OF THESE FOUR-SEATER MODELS WERE BUILT FROM 1936 TO 1940 IN RÜSSELSHEIM, WHICH EVEN THEN WAS ONE OF THE MOST ADVANCED CAR-MAKING PLANTS IN EUROPE.

"This new car is an important innovation and valuable addition to the small car class," wrote the Opel press department in December 1936. By small car, Opel meant the 1.0–1.5 liter class. The "valuable addition" that created a minor sensation was the cost: The first Kadett with its revolutionary unitary body construction available as sedan or convertible cost only 2,100 reichmarks.

The speedy four-seater could do nearly 100 km/h and it did not take long to find its way into the hearts of the general public. It also found favor with the press: "As the first test drives have confirmed, the Kadett is certainly not an ordinary vehicle in this price range," wrote a German newspaper, "Braunschweiger Tageszeitung," on December 5, 1936.

The chassis with Dubonnet independent front suspension and leaf-spring rear axle stemmed from the Opel Olympia, and the L-head four-cylinder gray cast-iron engine was taken from the Opel P 4. It generated 23 hp from a capacity of 1,073 cc. The advantages of taking the engineering from a modular system also played a key part in the low price of the car.

Like its big brother the Olympia, which it also resembles, the Kadett was a snazzy car. It was characterized by harmonious proportions with fastback and integrated headlamps. In 1938 a major mid-cycle enhancement added a new radiator mask in late art deco style – experts today count this model as an intermediate generation.

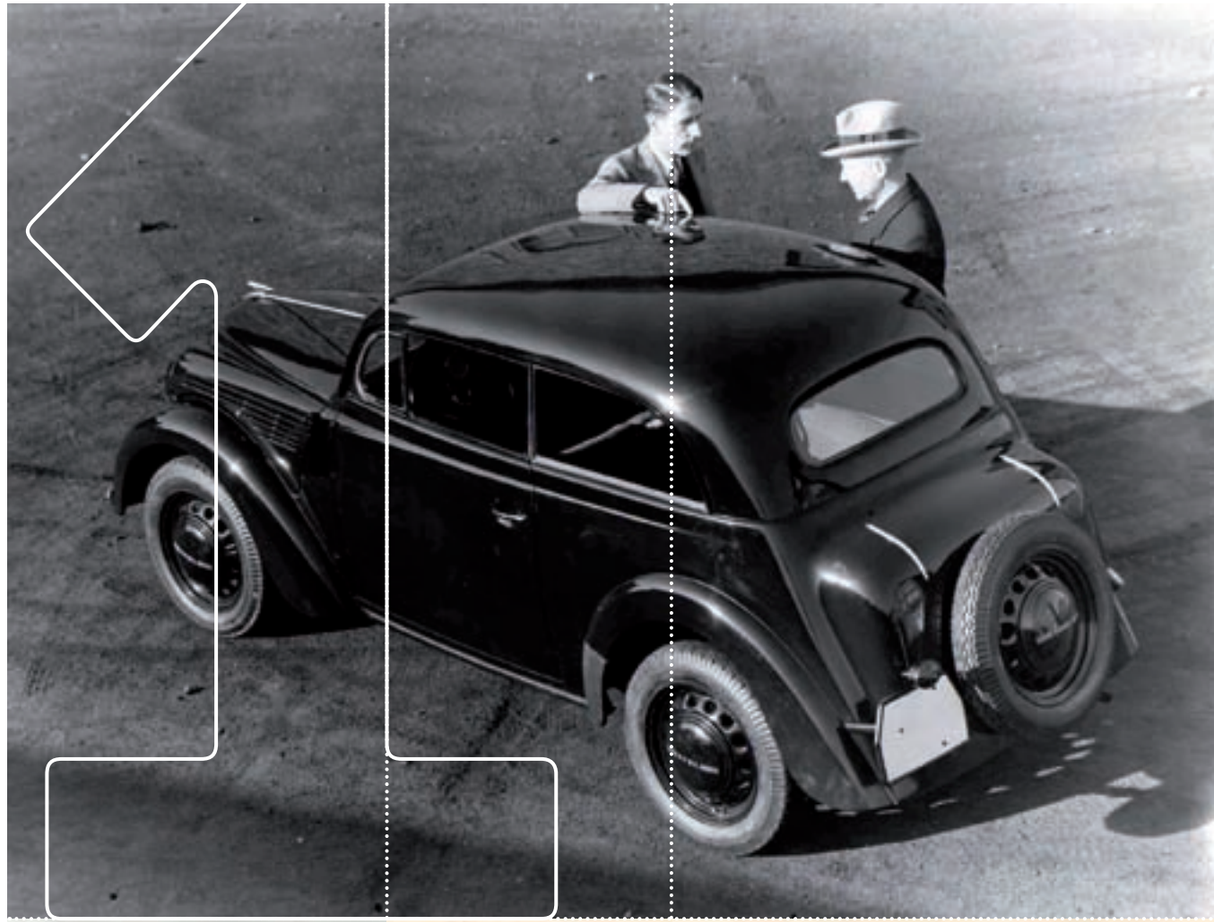
The trunk was accessible from inside and the spare wheel was mounted outside on the trunk. The engineering used in the Kadett was certainly up with the times: The Kadett had a notably comfortable drive on its perforated and thus relatively lightweight steel wheels and 4.50x16 low-pressure balloon tires. Its engine even then featured a downdraft carburetor with a venturi tube. Power was transferred to the rear wheels via a dry single-disk clutch and a three-speed transmission. Braking was performed hydraulically via four drums.

Much attention was given to the corrosion protection system used for the Kadett. The steel shell was coated inside and out, including all the hollow profiles.

01-002
FLOWING LINES: INTEGRATED HEADLAMPS GAVE THE HATCHBACK ITS HARMONIOUS PROPORTIONS

MILE STONE

THE PRODUCTION LINE OF THE KADETT WAS TAKEN TO THE USSR IN 1946 AS A WAR REPARATION PAYMENT. BUILT ON THIS MACHINERY, THE MOSKWITCH 400 MADE ITS DEBUT IN 1947.



01-003
NEW SEGMENT: AS A FULL-FLEDGED FOUR-SEATER FOR JUST 2,100 REICHMARKS, THE KADETT WAS FIRST TO MAKE DRIVING AFFORDABLE FOR THE MASSES

01-004
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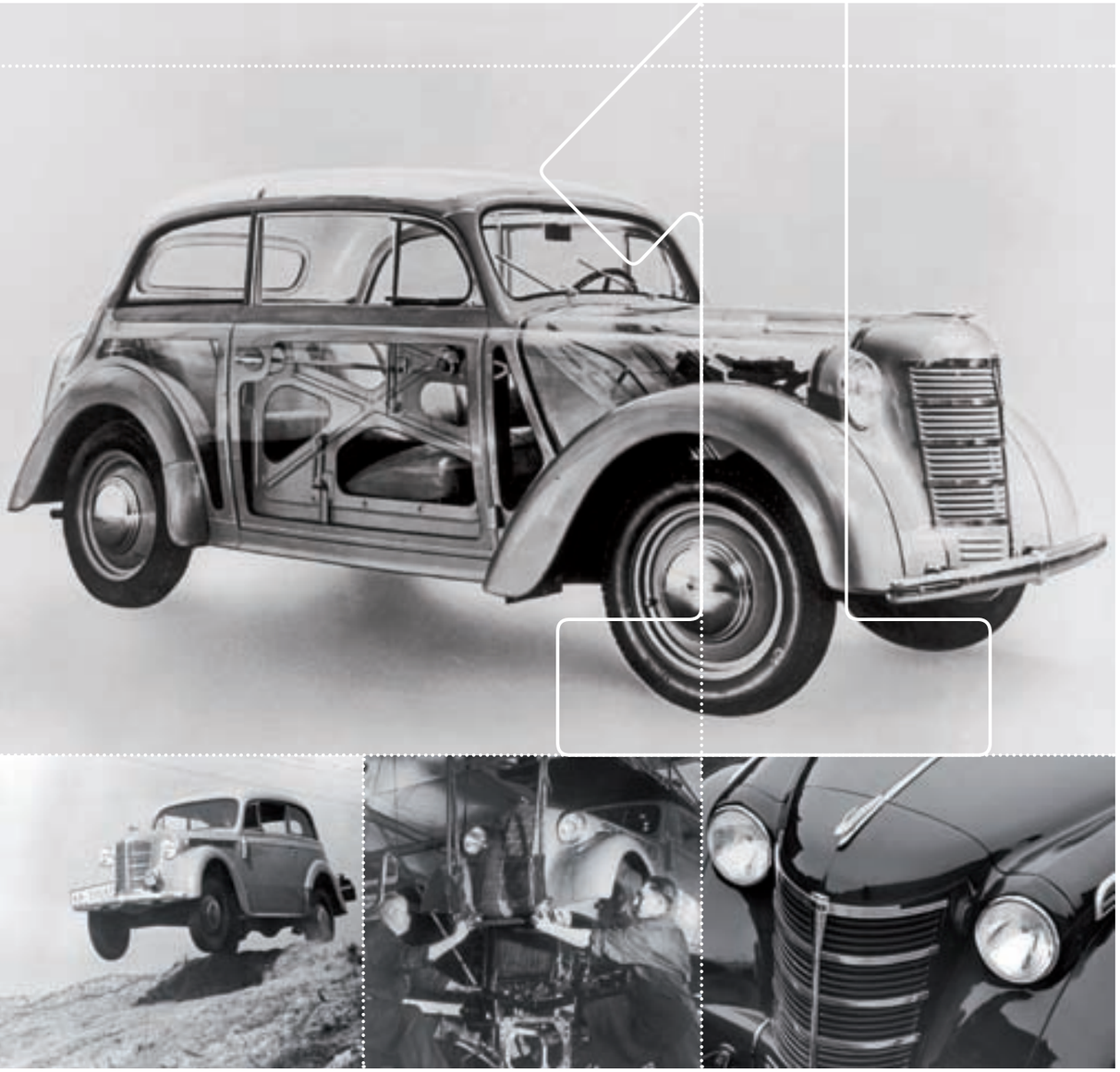
PLENTY OF FRESH AIR: THE CONVERTIBLE SEDAN COULD ALSO SEAT FOUR PASSENGERS



01-007
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01-009
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01-010
CHIC: EVEN IN 1938, OPEL DESIGNERS PAID ATTENTION TO STYLISTIC DETAILS

THE MOST IMPORTANT INNOVATIONS

WITH ITS GOOD VALUE FOR MONEY AND PROGRESSIVE FEATURES, THE FIRST KADETT LAID THE CORNER STONE FOR OPEL'S SUCCESS IN THE COMPACT CLASS.

NEW MODEL LINE

"Just as agile, versatile and obedient to all the driver's commands as you would expect of a career-making cadet," wrote the Cologne newspaper, "Kölnische Zeitung," in 1936 about Opel's new car. Its name, "Kadett" was as new as the segment. Up until the debut of the first Astra in 1991 (see page 54), Opel's compact class line would use this name for more than five decades. The company launched two more ranges with names stemming from the German navy, Admiral and Kapitän, in 1937 and 1938.

SELF-SUPPORTING BODY

After the Olympia, which was the first German series-production vehicle to feature a unitary all-steel body, the first Kadett also had a monocoque body. There are many advantages of this construction compared with the classic wooden body-on frame. For instance, the driving performance and fuel consumption benefit from the car's low weight, while the safety level is higher thanks to the rigid passenger cell and the lower center of gravity.

PRODUCTION

The self-supporting structure opened the door to a new production method that is still commonly used today: The body and the powertrain (engine, transmission, axles) are "married" on the production line with the help of hydraulic elevators. The Kadett was manufactured by Opel, in Rüsselsheim. In 1936, the company operated the most modern drop forge in the world and the largest body press shop in Europe.

DESIGN

Headlamps integrated into the body instead of the ancient separate lamp units gave the Kadett a fresh appearance. Not surprising, because it was Opel that first made modern car design popular in Europe. Back in the 1930s, shortly after the company's integration into the General Motors Group, a design department was established in Rüsselsheim on the initiative of GM chief designer, Harley Earl.

STANDARD FEATURES

Plenty of car for your money: As long ago as 1936, the first Kadett offered the same good value for money and thus democratized luxury. This has become typical of the Opel brand. Details such as hydraulic four-wheel brakes, direction indicator, draft-free ventilation through a triangular hinged window and "dustproof" trunk accessible from the inside were at that time very unusual for this category of car – in the Kadett, they were all standard.

CARBURETOR

The Kadett was the first Opel model to feature an in-house developed downdraft carburetor with a so-called venturi tube. In this tube, named after the Italian physicist, Giovanni Battista Venturi (1746–1822), the fuel is mixed into the air intake ahead of the throttle valve. The venturi tube is a smooth-walled piece of tubing with a constriction in it. When air flows through the tube and passes the constricted section, it has to flow faster at this point than in the other sections. As a result, a vacuum is produced (as on the upper side of an aircraft wing). At the constricted point is a tube filled with gasoline. The fuel is sucked in by the vacuum in the venturi tube and dragged along.

MILE STONE

RISEN FROM THE RUINS: A FIRST GENERATION KADETT, WITH 49,371 KILOMETERS ON THE CLOCK WAS FOUND IN 1981 IN A WALLED-IN ROOM NEAR SCHWEINFURT.

STRUCTURAL CHANGE

METAL FRAMEWORK INSTEAD OF A WOODEN BODY – THE CONSTRUCTION OF THE FIRST KADETT WAS REVOLUTIONARY AT THE TIME, BUT IS NOW STANDARD PROCEDURE.

At the Berlin Motor Show in 1935 – the forerunner to the "IAA" – Opel attracted a lot of attention when it showcased a car with an almost transparent body. The roof, door panels, engine hood and trunk of the exhibit were made of plexiglass to illustrate the new form of the frameless structure. This Olympia – like the Kadett presented a year later – was built according to an Opel patent granted in 1934, and was the first German production car with a unitary steel body. A news release at that time draws parallels with architecture and aircraft construction: "The customary separation of the chassis and the body no longer applies. The rib structure of the body is built like a bridge support, a design that makes it possible to effortlessly absorb high forces and with a minimum of weight. This carcass structure consists of profile supports joined to each other as in metal aircraft design." With the premiere of the monocoque body in the Olympia and Kadett, Opel also introduced a new production method still used today, for which the company also received a patent.
The model in Berlin was dedicated not least to the doubters who still assumed that a stable vehicle could only be achieved with a chassis and a separate (wooden) body according to the design principle from the horse-and-carriage era. A replica of the glass exhibit now stands in the Deutsches Museum in Munich.

HEINRICH NORDHOFF (1899–1968), AT THAT TIME A TECHNICAL CONSULTANT IN OPEL'S SALES DEPARTMENT, LATER CHAIRMAN OF THE MANAGEMENT BOARD AT VOLKSWAGEN

"THE AIM WAS TO CREATE A CAR THAT OFFERS ITS OCCUPANTS ALL THE CONVENIENCE AND FULL POWER OF A TRULY MODERN CAR AT A LOW PRICE, WITH A COMFORTABLE AMOUNT OF SPACE AND MAXIMUM ECONOMY. WE HAVE NOT MADE ANY CONCESSIONS ANYWHERE."

TECHNICAL DATA

BODY/CHASSIS	
BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Rigid axle, forged
FRONT WHEEL SUSPENSION/DAMPING	Dubonnet springs/shock absorbers
REAR WHEEL SUSPENSION	Rigid axle, banjo type
REAR WHEEL SUSPENSION/DAMPING	Semi-elliptical leaf springs, hydraulic shock absorbers "Normal-Limousine" (sedan) from 1937: semi-elliptical leaf springs, shock absorbers
STEERING, TYPE	Worm segment steering
WHEELS, TYPE	Steel disk wheels
TIRES, SIZE (BASE)	4.50 x 16

DIMENSIONS/WEIGHT	
LENGTH/WIDTH/HEIGHT (MM) (SEDAN)	3810 x 1375 x 1455
"SPEZIAL-LIMOUSINE" (FROM 1937)	3840 x 1375 x 1535
"NORMAL-LIMOUSINE" (FROM 1937)	3710 x 1375 x 1455
WHEEL BASE (MM) (SEDAN)	2337
TRACK WIDTH FRONT/REAR (MM)	1075/1168
EMPTY WEIGHT (KG)	757

01-011
FIT FOR THE HIGHWAY: ADVERTISING FOCUSED ON STAMINA AND RELIABILITY. BROCHURE FROM 1936

02-001
PERFECT FOR A TRIP IN THE COUNTRY: THE KADETT CARAVAN WAS THE FIRST GERMAN COMPACT CLASS STATION WAGON

1962

OPEL KADETT A

SAM WALTON OPENS HIS FIRST WAL-MART STORE IN THE UNITED STATES. THE DECCA RECORD COMPANY TURNS DOWN THE BEATLES AFTER SOME TEST RECORDINGS, SAYING GUITAR GROUPS ARE NO LONGER MODERN. THE ARMS RACE BETWEEN THE US AND THE SOVIET UNION CLIMAXES WITH THE CUBAN MISSILE CRISIS. ANTHONY BURGESS PUBLISHES HIS BOOK “A CLOCKWORK ORANGE.” BRAZIL WINS THE WORLD FOOTBALL CUP IN CHILE. WORK BEGINS ON THE JAMES BOND FILM “DR. NO.” THE SUCCESS STORY OF THE KADETT A TAKES OFF.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL KADETT A
PRODUCTION PERIOD	1962–1965
NUMBER	649,512
BODY VARIANTS	+ TWO-DOOR SEDAN
	+ THREE-DOOR STATION WAGON
	+ TWO-DOOR COUPÉ
ENGINES	GASOLINE: 1.0 L/40 HP, 1.0 L/48 HP
SPECIAL CHARACTERISTICS	OFFERING AMPLE ROOM FOR A FAMILY AND ITS LUGGAGE, THE KADETT A USHERED IN A NEW CAR SEGMENT AND STARTED A NEW ERA FOR OPEL

A NEW ERA FOR OPEL

A LARGE TRUNK AND PLENTY OF ROOM FOR FOUR PEOPLE PLUS A NEW, LIVELY ENGINE AND LOW MAINTENANCE COSTS – THE RECIPE FOR SUCCESS FOR THE KADETT A. OPEL BUILT NEARLY 650,000 OF THEM FROM 1962 TO 1965 AT ITS NEW PLANT IN BOCHUM, GERMANY.

"The gentlemen traveled incognito. Absolute secrecy was needed when, on March 18, 1960, a delegation of Opel managers set out northbound for the Ruhr Area of Germany. In a ploy to conceal the true origin of the directors, they give false names on their hotel reservations and drive in a car sporting a star on the radiator instead of Opel's lightning bolt." According to the report in Opel's "Start" magazine, the success story of the Kadett A began like a detective novel. The team of directors was looking for a new site to produce the next model line: Bochum got the nod. For Opel and Germany, a new era started with the new factory and the third car complemented Rekord and Kapitän.

It did not take long for the press to realize which rival brand the new compact, inexpensive model was targeting: "Hello Wolfsburg, hear the news! With its own new production plant, Opel can produce the necessary numbers at an affordable price," read one headline.

After prototypes covered more than 1.5 million test kilometers throughout the world, the first "Wirtschaftswunder"-Kadett drove off the production line in October 1962. The price started at a modest 2,590 euros in today's terms. The contours of the two-door notchback model were businesslike and modern. The beltline was low down, the panoramic windows made for good visibility and a decorative strip running along the side accentuated the stretched form. Front wings tapered off into the headlamps and the rear ends were shaped as fins.

The four-seater deeply impressed owners of conventional small cars not only in terms of space. "The trunk? A real baggage compartment. The bags do not have to be carefully stowed, they can be comfortably deposited. Another small but important point is that the fuel tank cap is outside so that you never have the smell of gasoline in the trunk," wrote Opel's advertising team, unable to resist a dig at their competitors in Wolfsburg.

With its modern, water-cooled front engine, the Kadett had another major design advantage. The 993 cc four-cylinder unit developed 40 hp and, from March 1963, also powered the new Kadett Caravan. It was the first German station wagon in the compact class and Opel underscored its leadership in the wagon segment with it. Word spread about its roominess – by the mid-sixties, one in two station wagons was an Opel. The pretty Kadett coupé, available from October 1963, was powered by a 48 hp 1.0 S unit that later became available in the two other body versions, too.

MILE STONE

TWO MONTHS AFTER PRODUCTION START-UP, THERE WAS A FOUR-TO FIVE-MONTH DELIVERY LAG FOR A KADETT A DUE TO ENORMOUS DEMAND.

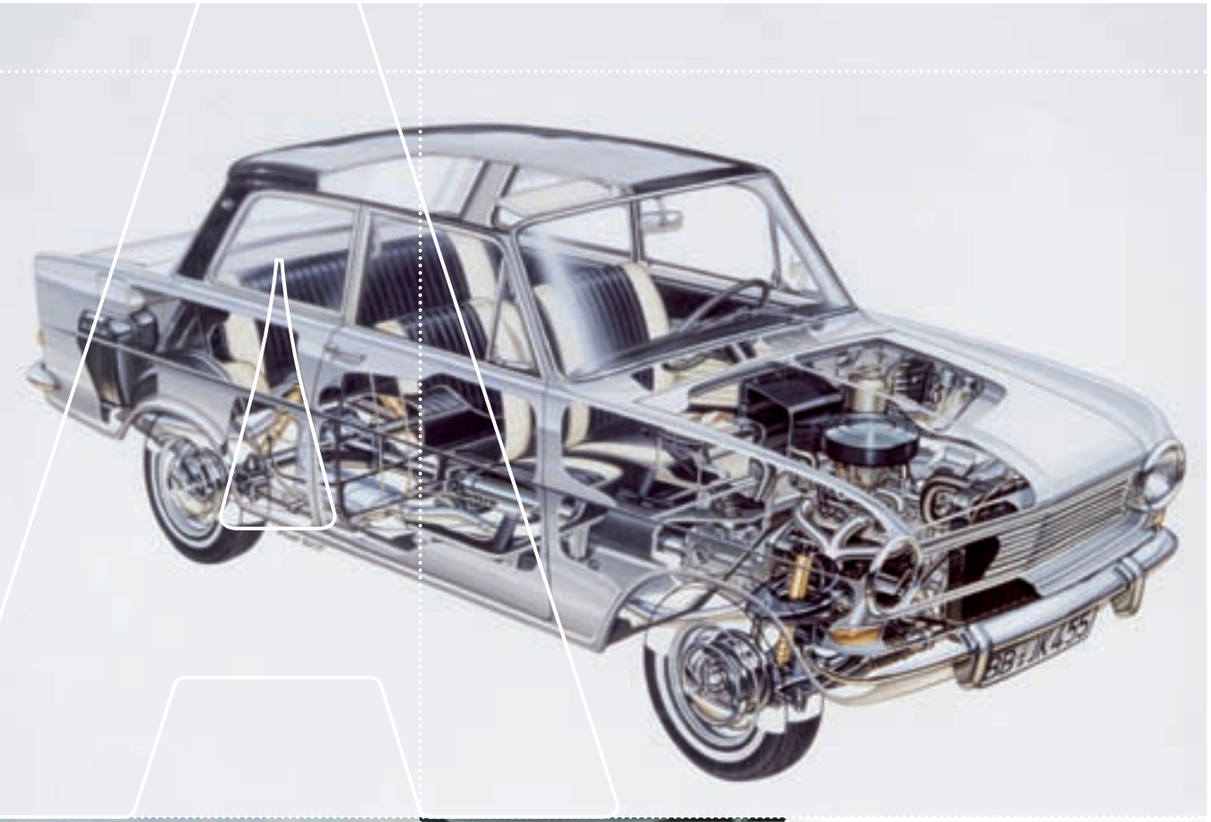
02-002
FAMILY OUTING: THE KADETT CARAVAN WAS AVAILABLE WITH A THIRD SEAT BENCH, PROVIDING ROOM FOR UP TO SIX PEOPLE

02-003
ECONOMIC MIRACLE: MANY PEOPLE DREAMT OF A CAR AND A HOUSE OF THEIR OWN. WITH THE AFFORDABLE KADETT, THAT DREAM WAS POSSIBLE

02-004
ON THE HOOK: THE SEDAN WAS THE BEST-SELLING VERSION OF THE KADETT

02-005
ELEGANCE: LAUNCHED IN OCTOBER 1963, THE KADETT COUPÉ WITH A 48 HP ENGINE WAS ADDED TO THE MODEL RANGE

02-006
ON TRACK: PRIVATE DRIVERS DISCOVERED THE SPORTING QUALITIES OF THE KADETT. HERE IN 1963 IN MONACO AT THE MONTE CARLO RALLY



02-007
RECIPE FOR SUCCESS: THE X-RAY REVEALED RELIABLE ENGINEERING AND PLENTY OF SPACE

02-008
DEVELOPMENT PHASE: OPEL DECIDED EARLY TO OPT FOR A WATER-COOLED FRONT ENGINE AND A SELF-SUPPORTING BODY

02-009
ROOM WITH A VIEW: GOOD ALL-ROUND VISION AND A FULL SET OF INSTRUMENTS WITH A BROADBAND SPEEDOMETER MADE THE KADETT DESIRABLE PROPERTY

02-010
READY FOR THE ROAD: NEWLY-MADE KADETTS IN THE NEW PLANT IN BOCHUM (1964)

THE MOST IMPORTANT INNOVATIONS

ITS PEPPY NEW ENGINE AND MANY INNOVATIVE CHASSIS DETAILS MADE THE KADETT A REALLY MODERN VEHICLE. IT WAS ALSO INEXPENSIVE TO SERVICE.

PRODUCTION

"A new plant, a new car," was Opel's slogan in 1962. For the production of the Wirtschaftswunder-Kadett, the company built a new ultra-modern factory on an old mining site in Bochum – its first car plant outside of Rüsselsheim. Right from the start of the design of this inexpensive and reliable new model, engineers attached great importance to keeping the production simple: The body consisted of only 12 main components. The side panels, for example, were made from a single sheet of steel. The front axle and the steering together formed one assembly unit – something far from conventional at that time.

ENGINE

For the Kadett A, the designers opted for a newly developed, water-cooled four-cylinder unit. The oversquare short-stroke engine (bore/stroke: 72/61 mm) reached its nominal output of 40 hp at 5,000 rpm and set new standards at Opel in terms of its willingness to rev. The 993 cc unit was also very elastic and attained its maximum torque of 7.2 mkg at just 2,000 rpm. The valves were operated by small, light push rods, while a roller chain with automatic tensioner drove the camshaft. The engine was mated to an equally new, fully synchronized four-speed gearbox with central gearshift lever. Starting in 1963 – at least in the new coupé – buyers could opt for a stronger engine with an extra 8 hp, which was achieved by raising the compression ratio from 7.8 to 8.8:1. As a result, the Kadett 1.0 S ran on premium instead of regular grade fuel.

CHASSIS

The front wheels had individual double-wishbone suspension. A new kind of "wide-gap" leaf spring served as the spring element. It also assumed the function of a stabilizer when driving round bends. A new aspect of the rear axle was its central articulated construction. In 1962, the press wrote: "The new central articulated axle has improved axle guidance and thus better wheel control, and it relieves the rear springs of brake and drive torque." Functioning as third support point of the drive unit, it also kept a lot of the vibrations away from the body.

LIGHTWEIGHT CONSTRUCTION

"The weight of the car – only 670 kg when empty – is quite sensational. And that deserves high praise indeed, at least from the engineering point of view," commented one auto journalist after testing the car. Despite the low weight, the body was stable: "Even in the most extreme state of torsion, the doors could be opened and closed perfectly normally," wrote Olaf von Fersen in the "Automobil" magazine, admiring the rigidity of the body that he declared far beyond standard.

SERVICE

Cost of ownership also was low. Thanks to its maintenance-free joints on the chassis and steering, the Kadett A did not need any lubricating nipples. With the new rack-and-pinion steering, the steering play adjusted automatically. The chain drive of the camshaft also adjusted on its own due to the automatic tensioner. Opel also trimmed servicing and spare part costs to a minimum: An oil change was needed only every 5,000 km, and the 10,000 kilometer service cost only 15 euros in today's terms including material. A re-manufactured engine cost a mere 200 euros. Apart from well-equipped garages with trained staff, a reliably functioning spare parts service was essential: Hence, in 1960, Opel opened a new modern spare parts and accessories center in Rüsselsheim.

MILE STONE

MANY WORKERS AT THE NEW OPEL PLANT IN BOCHUM WERE RECRUITED FROM THE MINING INDUSTRY. ONE IN EVERY FIVE WAS A FORMER MINER.

“BOCHUM AND OPEL: A SYMBIOSIS”

THE NEW OPEL PLANT IN BOCHUM BEGAN OPERATIONS MAKING THE KADETT A. THE BOLD DECISION TO BUILD A NEW PLANT PAID OFF: 9.6 MILLION KADETTS AND ASTRAS HAVE ROLLED OFF ITS PRODUCTION LINE SO FAR.

“Neither in Rüsselsheim nor in the whole surrounding region do we have the necessary conditions to expand production capacity. There’s not enough room to grow, and we don’t have the necessary labor in the catchment area.” That, in a nutshell, is why Opel said it built a new factory in Bochum for the Kadett A.
The earth-moving work began September 1960 on a former mining area. It was at that time Europe’s largest building site, with some 300 construction companies employing 5,500 workers to shift 2.5 million tons of earth, making 500,000 cubic meters of concrete and installing 90,000 tons of steel during day-and-night shifts. In total, Opel invested a billion marks. The site officially opened October 10, 1962, and production of the Kadett got under way. Construction of the body shell and final assembly were carried out in Plant I, while the engines, transmissions and axles were built in Plant II.
“Bochum and Opel: a symbiosis,” wrote Theodor Faber in the “Ruhr-Nachrichten” newspaper about the partnership between Opel and the city of Bochum. Since the opening of the plant, around 9.6 million compact models and a total of more than 13 million Opels have been produced there to date. At present, some 850 Astras are assembled each day. Bochum also produces the successful Astra-based compact van, the Zafira.

02-011
CELEBRATIONS: THE 500,000TH KADETT A ROLLED OFF THE CONVEYOR BELT IN BOCHUM IN 1965

02-012
PRODUCTION LINE: THE NEWLY BUILT PLANT IN BOCHUM WAS ONE OF THE MOST MODERN PRODUCTION FACILITIES IN THE WORLD

TECHNICAL DATA

BODY/CHASSIS	
BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Maintenance-free independent suspension with double transverse control arms
FRONT WHEEL SUSPENSION/DAMPING	Elastically mounted cross leaf springs (triplex steel band semi-elliptical springs), telescopic shock absorbers
REAR WHEEL SUSPENSION	Central joint rear axle
REAR WHEEL SUSPENSION/DAMPING	Leaf springs, telescopic shock absorbers
STEERING, TYPE	Rack and pinion steering with two tie rods
WHEELS, TYPE	Steel disk wheels, 4J x 12
TIRES, SIZE (BASE)	Tubeless, 5.50 x 12

DIMENSIONS/WEIGHT	SEDAN	COUPÉ AND L-SEDAN	STATION WAGON 1000 3-DOOR
LENGTH/WIDTH/HEIGHT (MM)	3923 x 1470 x 1410	3990 x 1470 x 1410	3923 x 1434 x 1483
WHEEL BASE (MM)	2325	2325	2325
TRACK WIDTH FRONT/REAR (MM)	1200/1205	1200/1205	1209/1214
EMPTY WEIGHT (KG)	670–685	670–685	720

HANS HERRMANN, BORN 1928, AND GERMANY’S ONLY GRAND-PRIX DRIVER AT THE TIME, AFTER A TEST DRIVE FOR THE “BUNTE” MAGAZINE IN 1962

“IT IS A VERY ELASTIC ENGINE THAT EMITS A FRIENDLY HUMMING SOUND AND IS ALMOST INAUDIBLE IN NEUTRAL. EVEN WHEN I GAVE IT A THRASHING, IT STAYED SMOOTH. IT IS CERTAINLY PHENOMENAL, THIS OPEL ENGINE.”

03-001
NATURAL HABITAT: A RALLYE KADETT SEEMED AT HOME AT THE MONTE CARLO RALLY IN MONACO

1965

OPEL KADETT B

CANADA INTRODUCES ITS NEW “MAPLE LEAF” FLAG. THE FIRST COMMERCIAL NEWS SATELLITE “EARLY BIRD” IS LAUNCHED INTO SPACE. THE 11.6 KM MONT BLANC ROAD TUNNEL, THE WORLD’S LONGEST, OPENS. PRINCESS STEPHANIE OF MONACO IS BORN. FRANZ BECKENBAUER DEBUTS INTERNATIONALLY IN A QUALIFYING MATCH AGAINST SWEDEN. THE BEATLES’ FIFTH ALBUM, “HELP!” ARRIVES IN THE SHOPS. THE KADETT B SUCCEEDS THE KADETT A.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL KADETT B
PRODUCTION PERIOD	1965–1973
NUMBER	2.6 MILLION
BODY VARIANTS	+ TWO-DOOR SEDAN
	+ FOUR-DOOR SEDAN
	+ TWO- AND FOUR-DOOR FASTBACK (LS)
	+ THREE-DOOR STATION WAGON
	+ FIVE-DOOR STATION WAGON
	+ TWO-DOOR COUPÉ
	+ TWO-DOOR RALLYE KADETT
	+ TWO-DOOR RALLYE LS KADETT
	+ OLYMPIA TWO- AND FOUR-DOOR AND COUPÉ
ENGINES	GASOLINE: 1.1 L/45 HP, 1.1 L/55 HP, 1.1 L/60 HP, 1.2 L/60 HP, 1.7 L/75 HP, 1.9 L/90 HP
SPECIAL CHARACTERISTICS	+ FROM 1968, AVAILABLE WITH AUTOMATIC TRANSMISSION
	+ FIRST HIGH-CAPACITY SPORTY COMPACT CAR

ONE SIZE UP

FROM SEPTEMBER 1965 TO JULY 1973, A TOTAL 2.6 MILLION UNITS OF THE KADETT B ROLLED OFF THE PRODUCTION LINE. THE VARIETY OF MODELS WAS CONSIDERABLE, AND WITH THE LAUNCH OF THE KADETT RALLYE, OPEL ALSO DISCOVERED A NICHE FOR AFFORDABLE, SPORTY COMPACT CARS.

B follows A, and in 1965 a new series – internally designated with the second letter of the alphabet – replaced the first model that was built in Bochum, the Kadett A. The new version was more than four meters long and thus a good deal bigger than its predecessor. Right from launch, buyers could choose between a sedan, a station wagon and a coupé.
As for its fashionable figure – the designers were inspired by their colleagues overseas. The flat sloping rear was reminiscent of the fastback models popular in the US. In 1966, "Automobil Illustrierte" noted: "You can almost see the power and speed before you hear the engine." One characteristic style element was the three gill-shaped ventilation slits in the C pillar.
Not only was the length stepped up: So, too, was the horsepower. Opel engineers enlarged the bore of the four-cylinder unit by 3 mm. The basic 1,078 cc unit developed 45 hp. Also available was a higher-compression 1.1 S engine with 55 hp.
The Kadett was a fast success. Before the end of 1965, more than 87,000 sedans and 18,200 station wagons came off the Bochum production lines. By the time production ended in July 1973, the model often topped the list of new registrations in Germany. And its success was certainly not limited to its country of birth. In 1966, the export quota reached 50 percent as customers from 120 countries around the globe snatched up the Kadett.
Among the many reasons for its popularity was its price: The basic model cost only 100 Deutschmarks more than its predecessor. In November 1966, Opel opened up the niche for affordable, sporty compact cars when it launched the Kadett Rallye. With its matte black engine hood and decorative stripes, the coupé made a very striking appearance on the road. It was initially equipped with a 60 hp double-carburetor version of the 1.1-liter engine, but from 1967 also became available with a 1.9-liter unit. The eye-catching paintwork did take some getting used to but quickly turned into a hallmark signature.

03-002
PARTY SCENE: THE LUXURIOUS OLYMPIA MADE A STYLISH IMPRESSION

MILESTONE
AN AERODYNAMIC COUPÉ STUDY BASED ON THE KADETT B AROUSED PLENTY OF ATTENTION AT THE IAA 1965. THE CONCEPT CAR LATER DEVELOPED INTO THE OPEL GT.

03-003
DASHING: THE 1972 RALLYE KADETT WAS JAZZED UP WITH CHARACTERISTIC PAINTWORK AND BLACK DECORATIVE STRIPES

03-004
VACATION TIME: WITH FOUR DOORS AND PLENTY OF SPACE, THE KADETT HELPED DRIVERS ARRIVE RELAXED AT THEIR DESTINATION

03-005
EASY TRAVEL: WITH ITS 1.57 METER LONG LOADING AREA, THE CARAVAN COULD ALSO TAKE BULKY SPORTS EQUIPMENT

03-006
STYLE AND FUNCTION: THE OLYMPIA'S INSTRUMENT PANEL SPORTED IMITATION WOOD AND THREE-SPOKE STEERING WHEEL

03-007
ELEGANT DRIVE: EARLY KADETT COUPÉ WAS DRESSED WITH ITS TYPICAL GILL-LIKE AIR VENTS IN THE C POST

03-008
SUNDAY BEST: FROM 1967 TO 1971, OPEL BUILT THE OLYMPIA AS A LUXURY VERSION OF THE KADETT

03-009
IN BATTLE DRESS: THE KADETT DID JUSTICE TO THE SPORTING REPUTATION OF THE OPEL BRAND

03-010
LEADER OF THE PACK: A RALLYE KADETT SHOWED WHAT IT COULD DO ON THE NÜRBURGRING

03-011
FULLY LOADED: THE KADETT B SEDAN WAS THE FIRST FIVE-SEATER IN THE RANGE – WITH PLENTY OF ROOM FOR THE LUGGAGE

THE MOST IMPORTANT INNOVATIONS

THE ADDITION OF THE LARGE 1.9-LITER ENGINE TO THE MODEL RANGE, THE RELEASE OF THE LUXURY OLYMPIA VERSION AND THE FIRST AUTOMATIC TRANSMISSION ALL CONTRIBUTED TO THE SUCCESS OF THE KADETT B.

RIGHT-SIZING

The Kadett B was the first compact car to boast a big engine: From September 1967, buyers of the Kadett Rallye could opt for the 90 hp 1.9-liter four-cylinder unit taken from the Opel Rekord. It took the coupé, equipped with a modified chassis, to a top speed of 170 km/h. Overnight, motor sport became affordable for many.

NEW CLASS

The Kadett B sedan was the first Kadett to officially be a five-seater. (The coupé was still authorized for just four people.) In all, the new model was considerably larger. Compared with its predecessor, the body was 18 cm longer and 10 cm wider, which was particularly beneficial to the interior. "The amount of comfort has increased significantly. For example, there is 206 mm more hip width and 73 mm more shoulder width in the rear, and also 90 mm more shoulder width at the front. The size of the trunk has grown by around 12 percent to 337 liters," wrote the Opel press department.

LUXURY VERSION

A premium version of a compact class car is nothing new. It is a practice Opel introduced more than 40 years ago when it launched the Olympia version of its Kadett. "The Olympia is the logical upward progression of the successful Kadett concept," the press folder at that time explained. "With the same compact outer dimensions, the Olympia has higher driving performance and exceptional equipment and comfort." From September 1967 to August 1970, more than 80,000 units of the Olympia A were sold. The luxury coupé's upgraded equipment, which was available with 60, 75 or 90 hp power plants, included special knotted carpets and an upholstered dashboard with a quality wood look. Outside, it sported a modified radiator grille pulled around the fenders with chrome strips, front headlamps in square frames and larger side windows at the rear, made possible through the elimination of the gill-like ventilation slits.

ELECTRICS

The Kadett B was the first Kadett with a 12-volt electrical system. "The changeover to 12 V is very welcome, and it means that, of the major brands, only VW, Ford and BMW are still exercising unfashionable frugality," wrote a motor journalist at the time. The instruments in the cockpit were no longer wired but had a printed circuit.

AUTOMATIC TRANSMISSION

From November 1968, for an extra 800 marks, the Kadett also was available with automatic transmission. The automatic gearbox was produced at GM's transmission plant in Strasbourg, France. The three-speed converter transmission initially was only available with the large 1.7 and 1.9-liter engines, but a year later buyers of the 1.1-liter Kadett with 60 hp could also go automatic.

MODEL RANGE

With the Kadett B, the diversification of the compact class began in earnest at Opel. In autumn 1967, buyers had a choice of five engines with 45 to 90 hp. They could also choose between a dozen or so body versions, together with the Olympia and Rallye models. In total, the range consisted of 28 Kadett and 9 Olympia versions.

MILE STONE

"CONCEIVED FOR SWITZERLAND, BUILT IN SWITZERLAND," WAS THE SLOGAN FOR THE "ASCONA," A LIMITED EDITION KADETT, AVAILABLE ONLY IN THAT ALPINE COUNTRY AFTER 1965. IN 1970, THE NAME WAS PASSED ON TO THE NEW MIDSIZE OPEL.

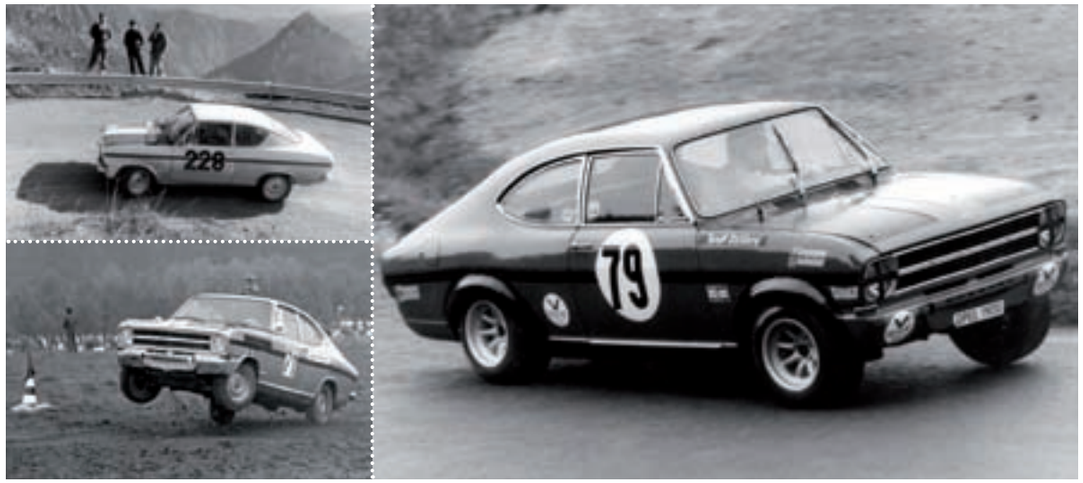
FAST ON THE ROAD AND ON GRAVEL

SPORTING SUCCESSES IN GERMANY AND ABROAD JUSTIFY THE REPUTATION OF THE KADETT RALLYE AS A SOLID, INEXPENSIVE COMPETITION VEHICLE.

It did not take long for Hans Beck from the development department to recognize how much potential the Kadett B coupé had as a competition vehicle. Together with Dieter Lambart, who worked for an Opel distributor in Stuttgart, Beck revamped a coupé to make it suitable for rallying. In January 1966, the pair placed 15th overall in the Monte Carlo Rally and third in their class. Their success did not stop there: Soon afterward, the Kadett was class winner in the ADAC winter endurance event and, by the end of the year, Beck and Herbert Heuser won overall in the Tour d'Europe.

With the launch of the official Kadett Rallye in November 1966, Opel re-enforced this sporting success, introducing the forerunner to a whole number of sporty Opel compact models, including the present-day Astra OPC. The list of victories was almost endless: The reliable and economical Kadett Rallye celebrated success at the Stuttgart–Lyon–Charbonnières Rallye, the Hessen Rallye, the Rallye Trifels and the Tour de Luxembourg. Opel tuner Günther Irmscher won the Tour d'Europe in 1967. The same year, the Kadett recorded its greatest success to date when Lambart teamed with Hans Vogt to become class winners in the Monte Carlo Rally.

Just how successful the Kadett Rallye model actually was at the time in motor sports is illustrated by the statistics for 1968: In a total of 238 events, it scored 222 class victories plus 345 gold and 287 silver medals.



03-012
MASTER OF THE MOUNTAINS: A RALLYE KADETT IN ITS ELEMENT IN THE ALPS DURING THE MONTE CARLO RALLY

03-013
MUD-FIGHT: KADETT COUPÉ DIDN'T NEED TO PLAY DIRTY IN AUTOCROSS

03-014
AMATEUR SPORT: BENGT DAHLBERG DROVE IN A KADETT IN THE 1970 "ONE-MAKE CUP"

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Maintenance-free independent suspension with double transverse control arms
FRONT WHEEL SUSPENSION/DAMPING	Elastically mounted cross leaf springs (triplex steel band semi-elliptical springs), telescopic shock absorbers
REAR WHEEL SUSPENSION	Central joint rear axle
REAR WHEEL SUSPENSION/DAMPING	Leaf springs (as of 1967 coil springs), telescopic shock absorbers
STEERING, TYPE	Rack and pinion steering
WHEELS, TYPE	Steel disk wheels, 4J x 12 und 4 1/2 J x 13
TIRES, SIZE (BASE)	5.50 x 12 and 1.55 x 13

DIMENSIONS/WEIGHT

	SEDAN	COUPÉ AND L-SEDAN	KADETT B LS 2-/4-DOOR	KADETT B LS COUPÉ 2-DOOR
LENGTH/WIDTH/HEIGHT (MM)	4105 x 1573 x 1400	4182 x 1573 x 1405	4182 x 1573/1614 x 1400	4182 x 1573 x 1405
WHEEL BASE (MM)	2416	2416	2416	2416
TRACK WIDTH FRONT/REAR (MM)	1250/1280	1250/1280	1250/1280	1250/1280
EMPTY WEIGHT (KG)	745–785	745–785	755	755

	RALLYE KADETT B LS 2-DOOR	CARAVAN NORMAL EQUIPMENT 3-/5-DOOR	CARAVAN „L"-EQUIPMENT 3-/5-DOOR
LENGTH/WIDTH/HEIGHT (MM)	4182 x 1573 x 1405	4100 x 1573/1614 x 1395	4177 x 1573/1614 x 1395
WHEEL BASE (MM)	2416	2416	2416
TRACK WIDTH FRONT/REAR (MM)	1250/1280	1250/1280	1250/ 1280
EMPTY WEIGHT (KG)	780	850/870	855/875

MARION BECKHÄUSER, BORN 1972, FELL IN LOVE WITH A TURQUOISE-COLORED KADETT. THE PROFESSIONAL PHOTOGRAPHER FROM HAMBURG BOUGHT IT ON A LARK

"THE KADETT WAS PARKED IN THE PORT AREA OF HAMBURG. I FELL IN LOVE WITH IT IMMEDIATELY AND STUCK A LETTER DECORATED WITH FLOWERS BEHIND THE WINDSHIELD WIPER. WHEN THE OWNER PHONED, IT TURNED OUT THAT I KNEW HIM. IT WAS NOBBY, MY ICE-CREAM SALESMAN. I MUST ADMIT, IT TOOK A BIT OF CONVINCING TO GET HIM TO SELL ME THE CAR."

04-001
JOIE DE VIVRE: WITH ITS TARGA ROOF, THE KADETT AERO REPRESENTED AN INNOVATIVE BODY CONCEPT IN THE COMPACT CLASS

1973

OPEL KADETT C

OVER A BILLION PEOPLE AROUND THE WORLD FOLLOW ELVIS PRESLEY'S CONCERT IN HAWAII. GEORGE FOREMAN BEATS JOE FRAZIER TO BECOME THE NEW WORLD HEAVY-WEIGHT BOXING CHAMPION. ROCK GROUP PINK FLOYD RELEASES ITS "DARK SIDE OF THE MOON" ALBUM. THE LAST US SOLDIER LEAVES VIETNAM. THE WORLD TRADE CENTER IN NEW YORK OPENS. CARL GUSTAV XVI IS CROWNED KING OF SWEDEN. GERMANY INSTITUTES A SUNDAY DRIVING BAN DUE TO THE OIL CRISIS. IN AUGUST, THE KADETT C IS LAUNCHED.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL KADETT C
PRODUCTION PERIOD	1973–1979
NUMBER	1.7 MILLION
BODY VARIANTS	+ TWO- AND FOUR-DOOR SEDAN
	+ THREE-DOOR STATION WAGON
	+ TWO-DOOR COUPÉ, RALLYE, GT/E
	+ THREE-DOOR FASTBACK MODEL (CITY)
	+ TWO-DOOR CONVERTIBLE SEDAN (AERO)
ENGINES	GASOLINE: 1.0 L/40 HP; 1.2 L/52 HP, 1.2 L/60 HP, 1.6 L/73 HP, 1.6 L/75 HP, 1.9 L/105 HP, 2.0 L/110 HP, 2.0 L/115 HP
SPECIAL CHARACTERISTICS	LAST COMPACT OPEL MODEL WITH REAR-WHEEL DRIVE

THE CAR WITH MANY TALENTS

THE KADETT C FAMILY HAD MANY FACES: A SMART FAMILY CAR, A CHIC SECOND CAR WITH A PRACTICAL REAR FLAP, OR A COMPETITIVE SPORTS COUPÉ IN WAR PAINT. A TOTAL OF 1.7 MILLION OF THEM WERE BUILT BETWEEN 1973 AND 1979.

The rear-wheel drive Kadett C made its debut in August 1973 with a cleanly designed body and a new double-wishbone front axle. Characteristic design features included a flat radiator grille, an engine hood with the brand's signature crease, and a front apron in spoiler form. A total of 18 different body and engine variants were available at launch, including a sedan, station wagon and coupé, mated with the proven camshaft in head engines.

"The Kadett not only drives exceptionally well, but is also conscientiously designed and cleanly made. It requires little maintenance, is repair-friendly and economical to run," wrote the car-testing experts at "auto motor und sport" in the 20/73 edition – just one example of the praise lavished on the new Kadett C by the press at that time.

Functionality was the buzzword not only for the body but also for the interior. "When you get into the new Kadett, you are struck not only by the clearly and cleanly designed circular instruments, but also by the warning lights, which, by the way, conform to the international standards," noted author Werner Müller in the 22/73 issue of "Autozeitung."

"Kadett City" was the name of the new body variant launched in May 1975. This three-door fastback model with its large rear flap was particularly practical. But things were also happening at the other end of the model range. "People, hold on to your trousers, the new Kadett GT/E gets to 100 km/h in 9.8 seconds!" Opel's advertising department boasted with pride. The powerful GT/E debuted at 1975 IAA. Its 1.9-liter engine with Bosch L-Jetronic injection produced 105 hp and propelled the mere 900 kilograms of Kadett to a top speed of 184 km/h. Moreover, there was major buzz about the paint job: Above the belt line, the GT/E was bright yellow, and below it, black.

Not only young drivers dreamed of a GT/E: From 1976, a number of famous works drivers got behind the wheel of the high-performance model. Walter Röhrl and Rauno Aaltonen were successful at the Monte Carlo Rally and the Portugal Rally with GT/Es producing up to 225 hp. That year, Opel took second place in the overall Rallye Team Championship.

MILESTONE

IN 1978, A YEAR BEFORE PRODUCTION ENDED, THERE WERE 58 VARIANTS OF THE KADETT C – THREE TIMES MORE THAN WHEN IT LAUNCHED IN 1973.

04-002
LADIES CHOICE: THE KADETT CITY WITH ITS LARGE REAR FLAP WAS LAUNCHED IN 1975

04-003
FIGUREHEAD: WALTER RÖHRL ADVERTISED THE KADETT GT/E, WHICH WAS EQUALLY AT HOME RACING AS IN DAILY DRIVING

04-004
BEACH SPORTS: THE KADETT C, HERE THE SEDAN, WAS SEEN IN MANY COUNTRIES

04-005
SHOPPING THE EASY WAY: THE KADETT CITY WAS 20 CM SHORTER THAN THE SEDAN, BUT HAD A HATCHBACK AND VARIABLE TRUNK

04-006
MULTI-TALENTED: THE SPACIOUS KADETT CARAVAN, SHOWN HERE AFTER THE MODEL UPGRADE IN 1977 WITH INDICATORS ALONGSIDE THE HEADLAMPS

04-007
WORKPLACE: MODERN KADETT INTERIOR BOASTED THREE-POINT BELTS ON THE FRONT SEATS

04-008
FOREVER YOUNG: MANY KADETT COUPÉS ARE STILL COMPETING IN RALLIES AND HISTORIC MOTOR SPORTS EVENTS

04-009
CLOSE RELATIVE: THE BRITISH NAMED THEIR VERSION OF THE KADETT THE VAUXHALL CHEVETTE, WHICH WAS ALSO AVAILABLE IN GERMANY FROM 1980

04-010
GOOD CONDUCT: A NEW FEATURE WAS THE DOUBLE WISHBONE FRONT AXLE WITH COIL SPRINGS

04-011
RARE APPEARANCE: ONLY 1,242 KADETT AEROS WERE BUILT BY BAUR BODY WORKS IN STUTTGART

THE MOST IMPORTANT INNOVATIONS

ONLY THE REAR-WHEEL DRIVE WAS CONVENTIONAL: WITH ITS BROAD MODEL RANGE, INCLUDING THE CITY AND AERO, AND ITS MODERN POWERTRAIN, THE KADETT C RAISED THE BAR FOR ITS RIVALS.

THREE-POINT BELT

When the Kadett C first rolled off the production line in 1973, it was the first Kadett to have three-point belts on the front seats, with connections to the B pillar at the top and bottom as well as on the belt lock. It was a life-saving safety feature and, in 1985, the German Patents Office selected the three-point safety belt as one of the eight inventions to have brought the biggest benefit to humankind in the last 100 years. The Opel Safety Vehicle OSV 40 based on the Kadett (see next page) in 1974 demonstrated the extent to which safety awareness increased in the 1970s.

INJECTION

Instead of a mechanical carburetor, the Bosch L-Jetronic injection took over the task of fuel mixture preparation in the GT/E (from 1975). How much fuel was injected into the intake pipe depended on the volume of intake air, which was measured electronically.

NEW CHASSIS

The biggest technical innovation was the new double-wishbone axle with coil springs at the front. A stabilizer at the front was standard for all versions, as were belted tires all round. The track width was 20 mm wider than with its predecessor to improve handling.

WORLD CAREER

The Kadett C was produced not only in Bochum, Germany, but also at Vauxhall in the UK under the name Chevette. It was also built in the United States, Canada, Australia, Argentina and Brazil with a slightly modified body and engineering to suit the local conditions. In 1980, the Kadett C returned to the German market as an entry version – the Vauxhall Chevette – and remained in the company's portfolio until April 1982.

FOUR-VALVE TECHNOLOGY

At the IAA 1975, a sports engine debuted with flat forged pistons, Kugelfischer gasoline injection and two camshafts. The engine had a maximum output of over 200 hp, and was installed for the first time in a Kadett with a four-valve head for the Portugal Rally in 1976. In 1978, new regulations banned the use of special cylinder heads in group 2, which initially meant the end of this engine. A year later, in 1979, many of the design details of this four-valve engine emerged in the Ascona 400.

FIVE-SPEED TRANSMISSION

Starting in 1977, the Kadett GT/E with its 115 hp two-liter engine was equipped as standard with a five-speed gearbox instead of the usual four-speed unit. In the end, 2,234 of this so-called "1,000 series" of the Kadett GT/E were built, although only 1,000 were originally planned for homologation for motor racing. Because Opel had already sold out by the end of April 1978, it produced two more runs in June 1978. The first 1,000 coupés can be identified, among other things, by the "X" stamped into the trunk floor.

RARE TARGA

The Kadett Aero was an innovative body concept. Only 1,242 of this Targa model were built between 1976 and 1978 by the Stuttgart-based Baur body works. The center part of the roof could be detached quickly and stored in the trunk. The folding top behind the roll bar could be stowed away. With its unusual Targa concept and the shrill seventies' interior decorated with checked fabric, the Aero is now one of the most sought-after Kadett Cs.

MILE STONE

THE FUEL FILLER PIPE WAS CONCEALED BELOW A MOCK VENTILATOR FLAP IN THE RIGHT C PILLAR OF SEDAN, COUPÉ, STATION WAGON AND AERO MODELS.

NEAR-PRODUCTION SAFETY STUDY

THE OUTER SKIN OF THE "OSV 40" CONCEPT CAR WAS VIRTUALLY IDENTICAL TO THAT OF THE KADETT C. STEEL REINFORCEMENTS IMPROVED ACCIDENT SAFETY.

In 1974, Opel unveiled its "OSV 40" safety vehicle, a near-production prototype based on the Kadett with compact dimensions and low weight. Stable longitudinal and transverse profiles plus reinforced doors and sills protected the passengers in the event of a collision or rollover. Energy-absorbing plastic bumpers could withstand minor knocks up to 5 km/h. The vehicle was designed to withstand a head-on impact with a rigid obstacle at a speed of 65 km/h, equivalent to an impact at 40 miles an hour – hence the figure "40" in the name. With this study, Opel showed that optimum passive safety could be achieved not only with large and heavy vehicles, but also with compact, lighter-weight cars. At 960 kg, the experimental vehicle stayed well under the one-ton limit.
Experience gleaned from the development work and the testing of the OSV 40 went into the production of various subsequent models, including the Ascona and Manta B in 1975. Indeed, all the study vehicles designed in the seventies were important testing fields for the automotive engineers. In addition, their high public profile contributed to a growing awareness by drivers for safety feature. In the past, matters of safety and the consequences of accidents had been largely ignored and regarded as taboo; by the mid-1970s, car buyers were now considering passive and active safety elements when they purchased a new car.

04-012
EXTRA PROTECTION: THE FRONT AND REAR ENDS OF THE OSV 40 STUDY HAD ENERGY-ABSORBING ADD-ON PARTS

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Independent suspension with double transverse control arms
FRONT WHEEL SUSPENSION/DAMPING	Coil springs, telescopic shock absorbers, stabilizer
REAR WHEEL SUSPENSION	Central joint rear axle with longitudinal control arms
REAR WHEEL SUSPENSION/DAMPING	Coil springs, telescopic shock absorbers, stabilizer
STEERING, TYPE	Damped rack and pinion steering
WHEELS, TYPE	Steel disk wheels, 4J x 12 und 5 J x 13
TIRES, SIZE (BASE)	6.00 x 12

DIMENSIONS/WEIGHT

	SEDAN 2-/4-DOOR	COUPÉ	CITY
LENGTH/WIDTH/HEIGHT (MM)	4124 x 1570/1580 x 1375/1370	4124 x 1580 x 1335	3893 x 1570 x 1380
WHEEL BASE (MM)	2395	2395	2395
TRACK WIDTH FRONT/REAR (MM)	1300/1301	1300/1301	1300/1301
EMPTY WEIGHT (KG)	765–805	765–805	795–810

	STATION WAGON/STATION WAGON "L" AND BERLINA
LENGTH/WIDTH/HEIGHT (MM)	4138/4140 x 1385/1580
WHEEL BASE (MM)	2395
TRACK WIDTH FRONT/REAR (MM)	1300/1299
EMPTY WEIGHT (KG)	800–835

JOCHEN BERGER, BORN 1946, WAS GERMANY'S FIRST PROFESSIONAL CO-DRIVER. HE SAT NEXT TO WALTER RÖHRL FROM 1972 TO 1976. AMONG OTHER THINGS, THE PAIR GAINED A SENSATIONAL FOURTH PLACE IN THE 1976 MONTE CARLO RALLY IN A KADETT C GT/E

"DRIVING WITH WALTER IN THE KADETT C THROUGH A SPECIAL STAGE WAS LESS DANGEROUS THAN CROSSING A MAIN ROAD IN A CITY."

1979

OPEL KADETT D

MOTHER TERESA RECEIVES THE NOBEL PEACE PRIZE. CANADIANS SCOTT ABBOTT AND CHRIS HANEY DEVELOP THE BOARD GAME “TRIVIAL PURSUIT.” SHIITE RELIGIOUS LEADER AYATOLLAH KHOMEINI RETURNS TO IRAN AFTER 15 YEARS IN EXILE. KIMI RÄIKKONEN, FORMULA 1 WORLD CHAMPION IN 2007, IS BORN. THE US SPACE PROBE “VOYAGER I” GETS TO WITHIN 278,000 KM OF JUPITER. THE “CAP ANAMUR” RESCUE SHIP PICKS UP THE FIRST VIETNAMESE REFUGEES. OPEL LAUNCHES THE KADETT D.

05-001
NEW LAYOUT: THE KADETT WAS OPEL'S FIRST EVER FRONT-WHEEL DRIVE MODEL

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL KADETT D
PRODUCTION PERIOD	1979–1984
NUMBER	2.1 MILLION
BODY VARIANTS	+ THREE- AND FIVE-DOOR FASTBACK + TWO- AND FOUR-DOOR FASTBACK WITH DECK LID + THREE- AND FIVE-DOOR GTE + THREE- AND FIVE-DOOR SR + THREE- AND FIVE-DOOR STATION WAGON + THREE-DOOR VAN
ENGINES	GASOLINE: 1.2L/53 HP, 1.2L/54 HP, 1.2L/60 HP, 1.3L/60 HP, 1.3L/75 HP, 1.8L/115 HP DIESEL: 1.6L/54 HP
SPECIAL CHARACTERISTICS	FIRST OPEL MODEL WITH FRONT-WHEEL DRIVE. FROM 1980 INTRODUCTION OF "ONS KADETT CUP" FOR 1.3 S MODELS

NEW POWERTRAIN LAYOUT

WITH ITS FRONT-WHEEL DRIVE AND THE NEW OHC ENGINES, THE KADETT D REJUVENATED THE COMPACT CLASS AT OPEL. FROM 1979 TO 1984, A TOTAL OF 2.1 MILLION FASTBACK AND STATION WAGON MODELS OF THIS SERIES WERE PRODUCED.

Visually, the Kadett D was a soft revolution. Technically, it was a different story. At the 1979 IAA, Opel's first front-wheel drive model debuted as the modern-looking Kadett D. The packaging was truly convincing. Although the newcomer was 126 mm shorter than its predecessor at 3,998 mm, it sported a longer interior and offered significantly more space than many of its rivals.

But it was not only the powertrain layout and the chassis with a torsion-beam axle at the rear that broke with tradition: The Kadett was given a new 1.3-liter OHC engine that generated 60 or 75 hp. The revolution continued with the body variants. In addition to the spacious station wagon with a load volume of up to 1,425 liters, Opel offered only fastback versions. The range of engines grew successively: In spring 1980, the 1.2 S with 60 hp was added to the list of options, and in August 1981, the 90 hp 1.6 S joined the new engine family. The swirl-chamber diesel unit introduced by Opel in 1982 with the same capacity was also based on this gasoline engine. That 1.6 D offered 54 hp.

Power-hungry Kadett drivers needed to be patient a little longer. The SR versions, which were only available as three-door models, made a sporty impression with their spoilers, swish exterior mirrors, black foil on the sills and Recaro seats. Under the hood they initially had the familiar 1.3 S and 1.6 S engines with 75 and 90 hp respectively.

But in January 1983 things changed: "As the youngest offshoot of the Opel family, the Kadett GTE is a member of that happy generation of cars that accelerates like a bullet, sticks to the road like bubblegum at high noon and signals joie de vivre," gushed Jürgen Reinke in "Start" magazine. The GTE had a top speed of 187 km/h and was equipped with a 1.8-liter four-cylinder engine that developed 115 hp. Other technical modifications included a tighter and lower chassis, new steering dampers and ventilated disk brakes at the front.

05-002
YOUTHFUL: THE KADETT SR COMBINED A SPORTY LOOK WITH MODERN 75 AND 90 HP OHC ENGINES

MILE STONE

IN THE UK, WHERE THE KADETT D WAS LAUNCHED IN SUMMER 1982, THE CAR WAS NAMED THE VAUXHALL ASTRA, ANTICIPATING THE NAME OF LATER MODELS.

05-003
LOADS OF SPACE: THERE WAS ROOM FOR MORE THAN JUST A PICNIC BASKET IN THE TRUNK OF THE KADETT HATCHBACK

05-004
SPORTSVIEW: THE KADETT GTE WITH 115 HP WAS ADDED TO THE RANGE IN 1983

05-005
SUBTLE DIFFERENCE: THE KADETT D WAS AVAILABLE WITH A TRUNK LID (LEFT) AND A LARGE TAILGATE

05-006
MODERN TIMES: DASHBOARD AND SEAT FABRICS WERE HARMONIZED

05-007
BAGS OF ROOM: THE TRUNK OF THE THREE AND FIVE-DOOR KADETT CARAVAN COULD ACCOMMODATE UP TO 1,425 LITERS OF BAGGAGE

05-008
NEW KIDS ON THE BLOCK: TWO HATCHBACKS AND THE CARAVAN STATION WAGON MADE UP THE KADETT D FAMILY

05-009
GAMEKEEPER: THE LIMITED EDITION "PIRSCH" (PROWL) WAS IN ITS ELEMENT IN THE COUNTRY

05-010
FRESH INTERIOR DESIGN: FRONT-WHEEL DRIVE AND TRANSVERSE ENGINE ALLOWED A COMPLETELY NEW PACKAGING

05-011
WILD AT HEART: THE KADETT GTE HAD A 1.8-LITER FUEL-INJECTION ENGINE AND 115 HP

THE MOST IMPORTANT INNOVATIONS

NEW POWERFUL ENGINES WITH LOW FUEL CONSUMPTION FEATURING AN OVERHEAD CAMSHAFT AND MAINTENANCE-FRIENDLY DESIGN WERE JUST SOME OF THE TECHNICAL HIGHLIGHTS OF THIS FRONT WHEEL DRIVE MODEL.

FRONT-WHEEL DRIVE

"The driving performance of the new Opel felt so balanced from the outset that you would think the engineers in Rüsselsheim had been doing nothing but work on front wheel drive cars for years," announced "auto motor und sport" after the launch of the Kadett D, praising the new powertrain layout. Powered front wheels and transversally installed engines – Opel has remained true to this recipe for success in the compact class ever since.

BODY VERSIONS

Unlike its predecessors, the Kadett D was not available as a sedan with a separate trunk. To keep notchback fans interested, Opel offered, as an alternative to its fast-back Kadett with a large rear hatch, a second version with a separately opening trunk lid, recognizable from the external hinges.

GASOLINE ENGINE

From the very beginning, the Kadett D was available with a completely new 1.3-liter engine that sported a light alloy cross-flow cylinder head and overhead camshaft. The unit was available in two versions with 60 hp in the Kadett 1.3 N and 75 hp in the 1.3 S. The letters used in the model names indicated which type of fuel the Kadett needed. The lower powered unit had lower compression and got by with regular-grade gasoline ("normal" in German).

DIESEL ENGINE

The newly developed diesel engine was based on the gasoline engine of the same capacity. Common constructional characteristics were the light alloy cylinder head and the overhead camshaft driven by a toothed belt. The 54 hp 1.6 D was the first European diesel car to have hydraulic valve-clearance compensation.

NICHE MODELS

As an innovative marketing concept, Opel targeted special groups with special models. In January 1982, for instance, Opel took aim at rangers and hunters with its limited "Pirsch" (Prowl) edition. This Kadett was equipped with massive-bar mud and snow tires, limited slip differential and underbody protection. With the shortened front apron and a mechanical ride-height control system at the rear, the ground clearance was 15 cm. Other examples included special editions like the Kadett J (a particularly inexpensive entry-level model, available from the end of 1982) and the Kadett Caravan developed for disabled drivers (from January 1983).

INJECTION

While its more pedestrian brothers used carburetors for preparing the fuel mixture, the top GTE model boasted the Bosch LE-Jetronic injection system. One new feature was the fuel cut-off while coasting, in which consumption was reduced by the injection valves stopping the fuel supply. The system incorporated parameters such as engine temperature, engine speed, throttle position and accelerator pedal position.

SERVICE

In July 1982, Opel extended the service intervals from 10,000 to 15,000 kilometers. The service-friendly design of the Kadett also helped save money by incorporating maintenance-free components such as the automatic compensation of the valve play with hydraulic valve tappets (all OHC engines) and a breakerless transistor ignition system. The 1.6 S engine featured the latter system from the very beginning, and it was later built into the 1.3 S. A clutch disk could be replaced in 65 minutes without taking out the engine and, thanks to a new cylinder head gasket, the service after the first 1,000 km became superfluous.

MILE STONE

AT THE 1981 IAA, OPEL UNVEILED A LIMITED EDITION KADETT CALLED THE "CORSA." THIS IS HOW THE NAME FOR THE NEW SMALL CAR WAS TESTED.

THE DREAM OF SPACE

PASSENGERS BENEFITED FROM THE NEW POWERTRAIN LAYOUT OF THE KADETT D. NOT ONLY DID THEY GAIN MORE SPACE, SO DID THEIR LUGGAGE.

"The decision to go for a front-wheel drive and transverse installation of the engine was solely a question of getting the largest possible interior with the smallest possible dimensions," explained Karl Bettmann, chief engineer at the time of the Kadett D. Nowadays, the word "packaging" would be used. According to the Opel definition, packaging is the optimal division of the available space between the car's technical components, passenger cabin and luggage compartment.
The Kadett D made consistent use of the advantages of the front-wheel drive principle and transversally installed engine. It had the longest interior in its class and offered about 50 liters more trunk volume – namely a total of 402 – than its main competitors. Compared with its notchback predecessor, 24 liters more fit under the large rear flap.
Replacing the old live axle at the back with a torsion beam axle also affected space utilization. The 42-liter tank (station wagon: 50 liters) could be accommodated beneath the rear bench and, because the rear bench could be folded back, provided the versatility that has become typical of the Opel brand. McPherson struts were used on the front axle.
The aerodynamics also benefited from the transversally installed engine and flatter hood. With a drag coefficient of 0.39, the Kadett D was one of the most aerodynamic vehicles in its class, underlining yet another Opel tradition.

05-012
FLOWER POWER: THE TANK BELOW THE REAR SEAT BENCH MEANT EXTRA FLEXIBILITY – NOWADAYS A TYPICAL OPEL CHARACTERISTIC, NOT JUST FOR THE STATION WAGON

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Independent suspension with McPherson struts
FRONT WHEEL SUSPENSION/DAMPING	Coil springs, telescopic shock absorbers, stabilizer
REAR WHEEL SUSPENSION	Compound control arm rear axle
REAR WHEEL SUSPENSION/DAMPING	Mini-block springs, telescopic shock absorbers, stabilizer
STEERING, TYPE	Maintenance-free rack and pinion steering (safety steering)
WHEELS, TYPE	Steel disk wheels, 4 1/2 J x 13
TIRES, SIZE (BASE)	145 SR 13

DIMENSIONS/WEIGHT

	SEDAN 2-, 3-, 4- AND 5-DOOR AND SR, GTE	STATION WAGON 3-/5-DOOR
LENGTH/WIDTH/HEIGHT (MM)	3998 x 1636 x 1380	4207 x 1636 x 1400
WHEEL BASE (MM)	2514	2520
TRACK WIDTH FRONT/REAR (MM)	1400/1406	1400/1406
EMPTY WEIGHT (KG)	815–1000 (depending on engine)	875/885 3-door, 895/905 5-door (depending on engine)

FRIEDRICH W. "FRITZ" LOHR, BORN 1926, WAS OPEL'S HEAD OF RESEARCH AND DEVELOPMENT FOR MANY YEARS AND RESPONSIBLE FOR CHANGING ALL MIDSIZE AND COMPACT OPEL MODELS TO FRONT-WHEEL DRIVE.

"IN THE INTERNAL BATTLE FOR FRONT-WHEEL DRIVE, I SAID ONE DAY THAT I WOULD LIKE TO SEE TEN PEOPLE WHO CAN DRIVE WELL COME THE NEXT MORNING TO THE PROVING GROUND IN DUDENHOFEN. THERE, I MADE THEM DO A STANDING-START TEST ON THE 30% GRADIENT WITH FRONT- AND REAR-WHEEL DRIVE. THAT PUT AN END TO THE QUESTION. THE GOOD ONES MADE IT WITH BOTH CONCEPTS, THE BAD ONES WITH NEITHER OF THEM. FROM THEN ON FWD STOOD ONLY FOR 'FRITZ WILL DAS' ('FRITZ WANTS THAT')".

06-001
TEAMWORK: HAIDER/ HINTERLEITNER WON THE HESSEN RALLY IN 1989 WITH THEIR 220 HP KADETT GSI 16V

1984

OPEL KADETT E

PRIVATE TV STARTS IN GERMANY. FRANCE WINS THE EUROPEAN FOOTBALL CHAMPIONSHIPS. RICHARD VON WEIZSÄCKER BECOMES FEDERAL GERMAN PRESIDENT AND US PRESIDENT REAGAN IS RE-ELECTED. INDIA'S PRIME MINISTER INDIRA GANDHI IS ASSASSINATED. IN LIECHTENSTEIN, WOMEN GAIN THE RIGHT TO VOTE AND IN SWITZERLAND, ELISABETH KOPP IS THE FIRST WOMAN TO SERVE IN THE CABINET. THE WEARING OF SEAT BELTS BECOMES COMPULSORY IN GERMANY. APPLE LAUNCHES THE FIRST MACINTOSH COMPUTER ONTO THE MARKET. AND OPEL OFFERS THE WORLD THE KADETT E.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL KADETT E
PRODUCTION PERIOD	1984 – 1991
NUMBER	3,779,289
BODY VARIANTS	+ THREE- AND FIVE-DOOR HATCHBACK
	+ THREE- AND FIVE-DOOR STATION WAGON
	+ FOUR-DOOR NOTCHBACK SEDAN
	+ THREE- AND FIVE-DOOR GSI
	+ THREE-, FOUR- AND FIVE-DOOR GT
	+ TWO-DOOR CONVERTIBLE
	+ TWO-DOOR VAN
	+ TWO-DOOR COMBO TRUCK
ENGINES	GASOLINE: 1.2 L/55 HP, 1.3 L/60 HP, 1.3 L/75 HP, 1.4 L/60 HP, 1.4 L/75 HP, 1.6 L/75 HP, 1.6 L/82 HP, 1.6 L/90 HP, 1.8 L/84 HP, 1.8 L/90 HP, 1.8 L/100 HP, 1.8 L/116 HP, 2.0 L/116 HP, 2.0 L/130 HP, 2.0 L/150 HP, 2.0 L/156HP
	DIESEL: 1.5 L/72 HP, 1.6 L/54 HP, 1.7 L/57 HP
SPECIAL CHARACTERISTICS	+ FIRST CONVERTIBLE SINCE 1936
	+ THE KADETT GSI, WITH A DRAG COEFFICIENT OF 0.30 WAS THE MOST AERODYNAMIC HATCHBACK IN THE WORLD.
	+ VOTED "CAR OF THE YEAR 1984"

MILE STONE

51 MOTOR JOURNALISTS FROM 16 EUROPEAN COUNTRIES VOTED THE KADETT "CAR OF THE YEAR." IN GERMANY IT ALSO RECEIVED THE "GOLDEN STEERING WHEEL" AWARD.

AERODYNAMIC CHAMPION

THE SECOND FRONT-WHEEL DRIVE KADETT, BUILT FROM 1984 TO 1991, WAS NAMED "CAR OF THE YEAR 1984" AND WAS AN ABSOLUTE WINNER, SELLING A GRAND TOTAL OF 3,779,289 CARS IN ITS LIFETIME. THE KADETT E WAS THE WORLD LEADER IN AERODYNAMICS; IT ALSO DOMINATED ITS CLASS IN MOTOR RACING.

Efficiency was the name of the game, and the Opel engineers certainly hit the jackpot in 1984. Based on the engineering of its predecessor but with a completely new hatchback design, the Kadett E was set for an enormous career. Buyers took to the new form after only a few months, paving the way for a new success story that provided the Kadett E with 625,000 new registrations across Europe in 1987. By this time, the station wagon version already had climbed to the top of its class. In the fall of 1985 the notchback made a comeback, making it the first true sedan in Opel's compact class line up since the Kadett C. Moreover, the sporty GSi variant was an icon in the making. When the legendary 16-valve engine arrived on the scene in 1987, it left its competitors eating dust.

Auto journalists recognized early on that the new model was destined for success: The car was voted "Car of the Year 1984" by European automobile journalists and, like its predecessor, also received the "Goldenes Lenkrad" (Golden Steering Wheel) from Bild am Sonntag. Jury President, Professor Max Danner, noted: "A follow-up model to a successful series must have some clear plus points compared with its predecessor. Opel's engineers have done a really good job there."

From the very beginning, Opel's development team kept an eye on motor racing. When the GSi was presented to the press in Corsica, a prototype of the rallye model with 170 hp was also available for test drives. In the two-liter class, the Kadett remained almost unbeatable on the race track for several years. But Opel had even greater ambitions: After private driver Heinz-Friedrich Peil, nicknamed Bimbo, achieved initial success in 1988, Opel entered a works team in the German Touring Car Championship (DTM) in 1989. The Kadett GSi developed around 270 hp at 8,100 rpm in the DTM trim, weighed only 800 kg and quickly became the fans' favorite with drivers Markus Oestreich, Peter Oberndorfer and Volker Strycek.

Going less for speed but more for the endurance, two 54 hp diesel station wagons set out in 1987 on the 30,000 km route from Alaska to Tierra del Fuego. The torturous tour in the thin air of the Upper Andes nearly sapped the strength of the still non-turbocharged diesels. Despite this, both cars reached their destination, proving that it's not easy to stop a Kadett.

06-002
SLEEK AND SWIFT: THE KADETT SEDAN HAD AN OUTSTANDING DRAG COEFFICIENT OF 0.32

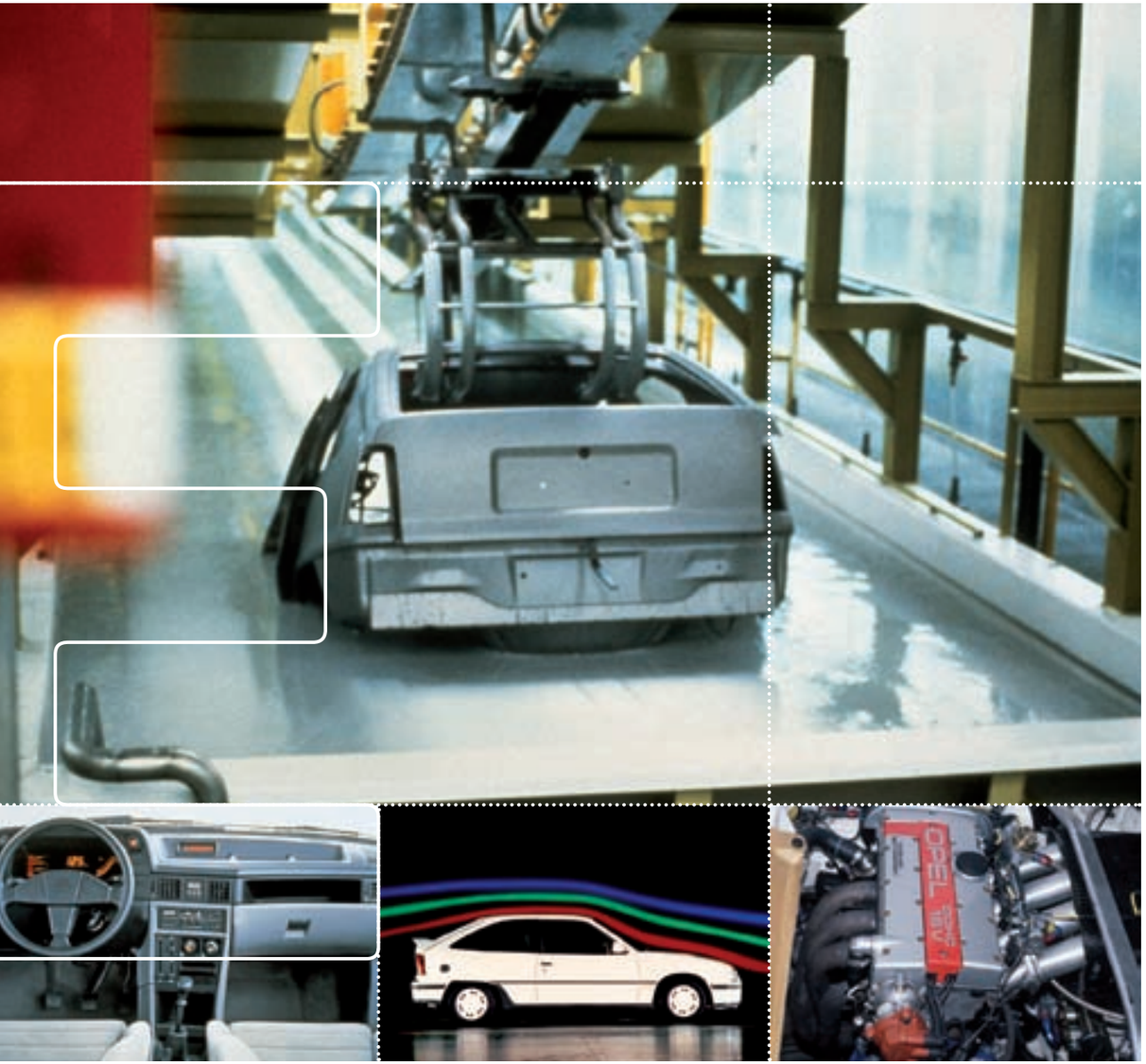
06-003
FRESH AIR EN MASSE: THE CONVERTIBLE CELEBRATED ITS PREMIERE AT THE 1985 IAA

06-004
TOP MODEL: THE SPORTY GSI WAS INITIALLY FITTED WITH AN 1.8-LITER ENGINE, LATER WITH A 2.0-LITER UNIT

06-005
DREAM CAR: THE KADETT DREAM WAS ONE OF THE POPULAR AND WELL-EQUIPPED SPECIAL EDITION MODELS

06-006
ALL-ROUNDER: THE KADETT CARAVAN HAD NO PROBLEM CARRYING ALL THE FAMILY'S SKIING GEAR

06-007
WINNING TEAM: OBERNDORFER, STRYCEK AND OESTREICH EXCITED FANS IN THE DTM RACE SERIES



06-008
PROTECTIVE COATING: THE BODY SHELLS WERE PRIMED AUTOMATICALLY BY CATAPHORETIC PAINTING

06-009
TECHNICAL TRENDSETTER: THE KADETT GSI HAD DIGITAL INSTRUMENTS AS STANDARD

06-010
TUNNEL TESTING: WITH A DRAG COEFFICIENT OF 0.30, THE GSI WAS THE MOST AERODYNAMIC SEDAN IN THE WORLD

06-011
SOURCE OF POWER: THE STANDARD VERSION OF THE NEW TWO-LITER 16V (HERE A RACING VERSION) GENERATED A HEFTY 150 HP

THE MOST IMPORTANT INNOVATIONS

WHILE THE DESIGN OF THE KADETT WAS VERY MUCH DEVOTED TO ACHIEVING TOP AERODYNAMICS, THE CAR ALSO OFFERED A NUMBER OF OTHER IMPORTANT TECHNICAL INNOVATIONS.

AERODYNAMICS

With a drag coefficient of 0.39, the Kadett D was already best in its class, but its successor left this figure in the shade. After spending 1,200 hours of fine tuning in the wind tunnel, the E model achieved a sensational 0.32. The GS, with a c_D of 0.30 and an air resistance of 0.57 sq.m., was the most aerodynamic hatchback in the world.

BRAKES

Following an autumn 1989 make-over, the Kadett boasted ABS. The brakes were offered as standard features in the GSi 16V and the Kadett CS, making the Kadett the first compact class car to include this system as standard. Other new safety features in 1989 were the height-adjustable belts in the back and rear headrests.

DIGITAL INSTRUMENTS

Perhaps they were ahead of their time. Many observers poked fun of the standard digital LCD instruments in the GSi. Opel responded by offering the additional option of conventional circular instruments.

CONVERTIBLE

The Kadett C Aero with a removable Targa roof came first, but at the 1985 IAA, Opel presented the first true compact convertible since 1936. Made by the Italian specialist Bertone, it was launched in 1987 and was an enormous success: Up until production ended in 1991, 60,218 of them were sold.

CATALYTIC CONVERTER

In 1985, Opel was the first manufacturer to race rallye cars with a catalytic converter – in this case, two versions of the Kadett 1.8i. Writing in the Opel magazine "Start," one reporter remarked that the "pipe cleaner" did the job in excellent fashion. "In a post-examination, the catalytic converter was in sound physical condition even after 13 hours of tough rallying." From then on, catalytic converter models were available on all Opel models, from the Corsa to the Monza. In 1988, some 45.9 percent of the Kadetts sold in Germany were equipped with a "pipe cleaner."

PRODUCTION

Opel invested the equivalent of around 500 million euros in its Bochum plant. In addition to robot-controlled state-of-the-art welding technology – more than 98 percent of all weld points were done automatically – the assembly process also began using adhesive bonding techniques. For the first time, for example, the adhesive was used to bond the door structure to the outer skin as well as on all fixed windows. The separate pre-assembly of the cockpit and the doors, too, was a world first. This was done with the aid of 160 computer-controlled, trolley-like robots, heralding the end of the inflexible production line.

FOUR-VALVE ENGINE

In 1987, Opel presented an époque-making engine in the Kadett GSi 16V. The new two-liter 16-valve unit with a lambda-probe catalytic converter developed what was previously almost inconceivable for the compact class, namely, 150 hp. With its help, the Kadett sports model could hit zero to 100 km/h in 8.0 seconds. Despite this, the engine, which was equipped with a state-of-the-art Motronic engine control system, was exceedingly frugal with its Euromix consumption of just 7.6 liters per 100 km. In standard trim in the Kadett GSi, this engine gave a remarkable top speed of 215 km/h, and in the various race versions, the engine dominated the two-liter class for many years in all the race and rallye disciplines. In fact, race cars with a 16V Opel engine have won the German Formula 3 Championship each year except one from 1992 until today.

ELECTRIC PROPULSION

In 1991, the Kadett went electric. The "Impuls" prototype developed 16 kW. More about this on the next page.

MILESTONE

THE MOST POWERFUL KADETT OF ALL TIMES WAS A WHITE MONSTER BUILT IN 1985 WITH THE NAME "RALLYE 4X4". ITS 1.4-LITER TURBOCHARGED ENGINE DEVELOPED UP TO 500 HP, BUT IT NEVER RACED BECAUSE THE RALLYE RULES WERE UNEXPECTEDLY CHANGED.

KADETT – ALL CHARGED UP

TOWARD THE END OF ITS CAREER, THE KADETT WENT OUT WITH A WHISPER – OF SORTS. THE 1991 PROTOTYPE WITH THE NAME “IMPULS” WAS POWERED BY AN ELECTRIC MOTOR.

At the end of 1980s, electrical propulsion was suddenly all the rage. The reason was not the fear of a fuel shortage or global warming, but concern about exhaust emissions. Munich was just one of many cities that threatened banning vehicles with a combustion engine from its old town in 1995. That didn’t actually happen, but Opel and GM launched an electric propulsion development program that led in a straight line to the present-day E-Flex concept.

The first drivable result was the Kadett Impuls in 1991. Its packaging and aerodynamics were ideal for electrification. Only recognizable on the outside by the nameplate, the slim aerodynamic body had a 16 kW direct current shunt motor under the hood. Weak though it was, it still took the car to a maximum of 100 km/h and coped with gradients of up to 25 percent. When braking, it recuperated the energy and charged the battery. The cadmium battery was made by the firm Saft, weighed 310 kg and was partially accommodated under the engine hood and partially below the trunk floor. The experimental battery had an energy content of 14.4 kWh, which gave it a range of up to 80 km in urban traffic. After that, the Kadett Impuls needed to find an electric plug. Recharging took around five hours. The Impuls had the charger on board, which meant it could be charged almost anywhere.

06-012
SMOOTH AND SILENT: THE ELECTRICALLY POWERED IMPULS I GLIDED ALONG AT 100 KM/H

06-013
TRIAL RUN: PARTS OF THE BATTERY WERE ACCOMMODATED IN THE FLOOR OF THE TRUNK

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Monocoque all steel body
FRONT WHEEL SUSPENSION	Independent suspension with McPherson struts
FRONT WHEEL SUSPENSION/DAMPING	Coil springs, telescopic shock absorbers, torsion bar stabilizer
REAR WHEEL SUSPENSION	Compound control arm rear axle
REAR WHEEL SUSPENSION/DAMPING	Mini-block springs, telescopic shock absorbers, torsion bar stabilizer
STEERING, TYPE	Rack and pinion steering (safety steering)
WHEELS, TYPE	Steel disk wheels, 4 1/2 J x 13 – 5J x 13
TIRES, SIZE (BASE)	145 SR 13 – 155 SR/TR 13

DIMENSIONS/WEIGHT

	SEDAN (3-/5-DOOR, GT, GSI)	HATCHBACK, FOUR-DOOR GT	CONVERTIBLE	STATION WAGON 3-/5-DOOR
LENGTH/WIDTH/HEIGHT (MM)	3998 x 1663 x 1400	4218 x 1658 x 1400	3998 x 1663 x 1385	4228 x 1666 x 1430
WHEEL BASE (MM)	2520	2520	2520	2520
TRACK WIDTH FRONT/REAR (MM)	1400/1406	1400/1406	1400/1406	1400/1406
EMPTY WEIGHT (KG)	855–1030	910–967	955–1020	895–1005/915–1025

SEPP HAIDER, BORN 1953, WINNER OF THE WORLD CHAMPIONSHIP RALLYE NEW ZEALAND IN 1988, AND, IN 1989, THE GERMAN RALLYE CHAMPIONSHIP IN A KADETT E GSI 16V

“THE 24TH SPECIAL STAGE IN THE RALLYE NEW ZEALAND ON JULY 11, 1988, WAS 37 KM LONG, FULL OF BENDS AND REALLY BRUTAL. I PUT EVERYTHING INTO IT. I MANAGED IT BUT MOST OF MY RIVALS DID NOT. THAT GAVE US OPEL’S FIRST WORLD CHAMPIONSHIP VICTORY SINCE 1983.”

07-001
NEW NAME: IN 1991, ASTRA DISPLACED KADETT AS THE MARQUE FOR OPEL'S COMPACT RANGE

1991

OPEL ASTRA F

BORIS YELTSIN IS ELECTED THE FIRST PRESIDENT OF THE RUSSIAN FEDERATION. THE GERMAN PARLIAMENT VOTES TO MOVE THE CAPITAL FROM BONN TO BERLIN. GLACIER MUMMY ÖTZI IS FOUND IN THE ÖTZTAL ALPS. A FEW WEEKS AFTER THE RELEASE OF THE "GREATEST HITS II" ALBUM, QUEEN'S LEAD SINGER FREDDIE MERCURY DIES OF COMPLICATIONS RELATED TO AIDS. AT THE WORLD ATHLETICS CHAMPIONSHIPS IN TOKYO, US SPRINTER CARL LEWIS SETS A WORLD RECORD IN THE 100 METERS, CLOCKING 9.86 SEC. USING THE NEW NAME ASTRA, THE NEXT GENERATION OF OPEL COMPACT CARS DEBUTS.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL ASTRA F
PRODUCTION PERIOD	1991–1997
NUMBER	4.13 MILLION (WITHOUT ASTRA CLASSIC)
BODY VARIANTS	+ HATCHBACK (THREE AND FIVE-DOOR) + THREE-DOOR GSI + SEDAN (FOUR-DOOR) + CONVERTIBLE (TWO-DOOR) + STATION WAGON (FIVE-DOOR)
ENGINES	GASOLINE: 1.4 L/60 HP, 1.6 L/71 HP, 1.6 L/75 HP, 1.6 L/100 HP, 1.8 L/90 HP, 1.8 L/115 HP, 1.8 L/125 HP, 2.0 L/115 HP, 2.0 L/136 HP, 2.0 L/150 HP DIESEL: 1.7 L/57 HP, 1.7 L/68 HP, 1.7 L/82 HP
SPECIAL CHARACTERISTICS	THE BEST-SELLING OPEL MODEL SO FAR

NEW NAME, OLD SUCCESS

SOME 4.13 MILLION ASTRA FS WERE BUILT BETWEEN 1991 AND 1998, MAKING IT THE BESTSELLING OPEL MODEL SO FAR. DEVELOPMENT WORK FOCUSED ON COMBINING MODERN DESIGN WITH MORE INTERIOR SPACE, ENHANCED COMFORT AND GREATER EMPHASIS ON ENVIRONMENTAL PROTECTION.

"With the all new Astra, our customers will drive more safely, in greater comfort and make less of an impact on the environment," said Opel's Chief Executive Louis R. Hughes in August 1991, describing the major strengths of the new model range. The successor to the Kadett assumed the name of its British sister model (the fourth generation of the Kadett had been sold in the UK as the Vauxhall Astra since 1980). It sported a new name, but enjoyed the same success: The Astra F carried on where the Kadett left off by sticking to the same suffix hierarchy and breaking sales records.

The new Astra offered not only modern design – designers talked of "clear, rounded contours and a tear-shaped footprint" – but also more interior space and comfort. For example, the so-called hip point was raised by 30 mm compared with its predecessor, giving Astra passengers a more comfortable seating position with better allround vision.

At the same time, Opel launched a safety offensive: "Passive safety should not cost anything extra," proclaimed Friedrich Lohr, head of Research & Development. Accordingly, the range of standard safety features offered throughout Europe was outstanding: All Astras offered an active belt system with tensioners on the front seats belts, height-adjustable belts and seat ramps. Moreover, side protection included double steel tube reinforcements in all the doors.

For the first time, all engines came with catalytic converters. When the new model initially was launched, buyers had a choice of five gasoline engines ranging from 60 hp to 150 hp and a new diesel unit. The 1.7 TD was, at that time, one of the most environmentally friendly diesel engines on the European car market. The 82 hp turbodiesel came equipped with modern injection, oxidation catalytic converter, intercooler and an electronically-controlled preheating system. The four-cylinder unit easily complied with 1987 US exhaust emission standards and thus met the same emissions requirements as the gasoline models with a lambda-sensor controlled catalytic converter. Also new was the use of recyclable materials for the Astra: The plastic fuel lines, air filter, fuel filling pipe and air ducts could all be recycled.

MILE STONE

FROM 1993 TO 2000, THE ASTRA CARAVAN WAS EUROPE'S MOST POPULAR STATION WAGON ACROSS ALL SEGMENTS.

07-002
INSIDE VIEW: THE ASTRA COMBINED FRONT-WHEEL DRIVE WITH A TRANSVERSE ENGINE. SHOWN IS A GSI 16V

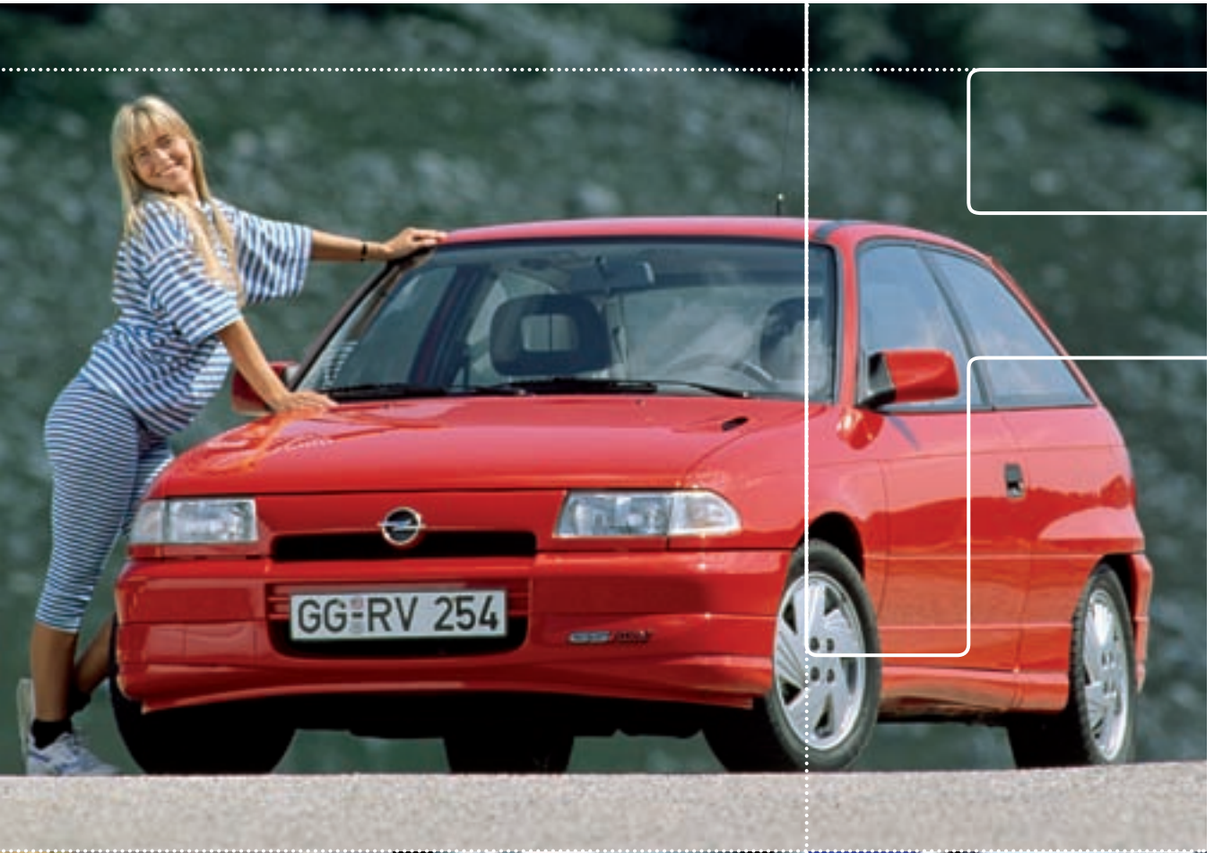
07-003
TOPLESS: THE ATTRACTIVE CONVERTIBLE WAS ALSO AVAILABLE WITH AN ELECTRICALLY OPERATED SOFT TOP

07-004
SNOWMOBILE: THE SPACIOUS STATION WAGON WAS A POPULAR BUY FROM THE VERY BEGINNING

07-005
FAMILY ADDITION: IN 1992, THE SEDAN JOINED THE ASTRA MODEL RANGE

07-006
ON THE LOOSE: THE DYNAMICALLY DESIGNED GSI SPORTS VERSION WAS A THREE-DOOR HATCHBACK

07-007
READY FOR TAKE-OFF: THE ASTRA SEDAN TOOK TO THE ROAD



07-008
CLEAN AFFAIR: ALL THE ASTRA ENGINES HAD FUEL INJECTION AND A CATALYTIC CONVERTER AS STANDARD

07-009
ELECTRIC ALTERNATIVE: THE ASTRA IMPULS II II WITH THE COMPONENTS OF THE ELECTRIC DRIVE UNIT

07-010
IMPROVED SAFETY: BELT TENSIONERS AND SUPPORT RAMPS IN THE SEATS MADE DRIVING SAFER

07-011
REINFORCEMENTS: SOLID STEEL TUBES IN THE DOORS PROVIDED PASSENGER PROTECTION IN THE EVENT OF SIDE IMPACT

THE MOST IMPORTANT INNOVATIONS

ENHANCED PASSIVE SAFETY, ALTERNATIVE PROPULSION TECHNOLOGIES WITH ELECTRICITY AND GAS, PLUS NEW COMFORT FEATURES – THESE WERE THE TECHNOLOGY TRENDS OF THE FIRST ASTRA GENERATION.

SAFETY

The safety package on the 1991 Astra marked a major step forward for the compact class. The Opel Safety System comprised of, among other things, side-impact protection, support ramps in the seats to prevent submarining under the safety belt, and seat belt tensioners. Driver and front-passenger airbags (both standard from 1994) and ABS were also available.

CNG MODEL

In July 1996, a small production run of the Astra Caravan CNG entered the market: 500 environmentally friendly gas-powered vehicles were produced for utility companies, authorities and fleet customers, who tested them under everyday conditions.

ELECTRIC DRIVE

The innovative Astra models with alternative propulsion proved that high environmental compatibility and regular daily use could be achieved. In 1992, the Impuls 2 electric car was launched. Its successor, the Impuls 3, proved its effectiveness during large-scale testing on the Baltic Sea island of Rügen. The ten prototypes covered a total of more than 350,000 km between 1993 and 1997. The Astra Impuls 3 equipped with a nickel-cadmium battery had an output of 45 kW, a maximum speed of 120 km/h and a range of 160 km.

INFO DISPLAY

The 124 x 17 mm Multi Info Display (MID) on top of the center console was a world first. It combined the displays for the radio, on-board computer and check control, all within the driver's field of vision. Separating the receiver from the display also provided effective theft protection for the audio unit.

CLEAN AIR FILTER

The Astra F was the first car in its class to feature a clean air system as standard. It protected the occupants from pollen, dust and dirt particles. The clean air system comprised of a recirculation device and a special three-layer interior air filter positioned above the fan that cleaned the inflowing air. Additional comfort was provided by an air-conditioning unit which Opel offered for the first time in this segment from fall 1992.

ANTI-THEFT DEVICE

The new central-locking system guaranteed even more effective theft protection, because the doors of the Astra could no longer be unlocked by pulling up the locking knobs. With the new central locking system, the lock cylinder in the driver's door offered the possibility of additional mechanical door locking and securing all the doors simultaneously.

TRACTION CONTROL

The Astra GSi 16V was the first model in this segment to enter the market with electronically controlled traction control. It controlled the amount of power transmitted to the front wheels by regulating engine output.

MILE STONE

IN MARCH 1996, THE OPEL ASTRA COOL BECAME THE FIRST COMPACT CAR TO BE EQUIPPED WITH AIR CONDITIONING AS STANDARD.

HELPING TO BUILD EASTERN GERMANY

OPEL WAS ONE OF THE FIRST WEST GERMAN CARMAKERS TO OPERATE A PLANT IN THE FORMER GERMAN DEMOCRATIC REPUBLIC. IT BEGAN PRODUCING THE ASTRA AT A NEW PLANT IN EISENACH IN 1992.

Private functions may be everyday events at the traditional Glockenhof restaurant in Eisenach, but the historic meeting that took place there on January 8, 1990, certainly was not. It was a constructive meeting with a conspiratorial touch, because one of the people present was Dr. Wolfram Liedtke, then chief of Automobilwerke Eisenach (AWE), now Quality Director at GM Europe, who was working without the consent of the IFA Kombinat, the East German umbrella organization. He discussed with Opel chief Hughes and other Opel board members a project that would save car production in Eisenach and mean an industrial turnaround for the state of Thuringia. Less than two years later, German Chancellor Helmut Kohl personally drove the first Opel Astra made in Eisenach off the production line of a brand new plant.

Opel was thus one of the first car manufacturers from West Germany to commit itself to the "new" eastern Germany and, according to the local media in Eisenach, was a "beacon of hope for the region, which was threatened by unemployment and existential fears." In March, 1990 Opel bought the AWE plant. On October 5, 1990 – only two days after German reunification – workers at Opel AWE Pkw GmbH started building the Vectra from parts kits. On September 23, 1992, Opel Eisenach GmbH opened a newly built plant and began producing the Astra. Since then, more than 2.3 million vehicles have come off the production line at Opel's Eisenach plant, which was conceived from the beginning as a training factory for all GM sites worldwide. Today, the Corsa is manufactured there.

07-012
ALL'S WELL ON THE EASTERN FRONT: WITH THE PLANT IN EISENACH, OPEL COMMITTED TO THE FORMER EAST GERMANY

07-013
"MADE IN EISENACH": THE FEDERAL GERMAN CHANCELLOR, HELMUT KOHL, WAS ON HAND WHEN THE FIRST ASTRA WAS BUILT IN THURINGIA, EASTERN GERMANY

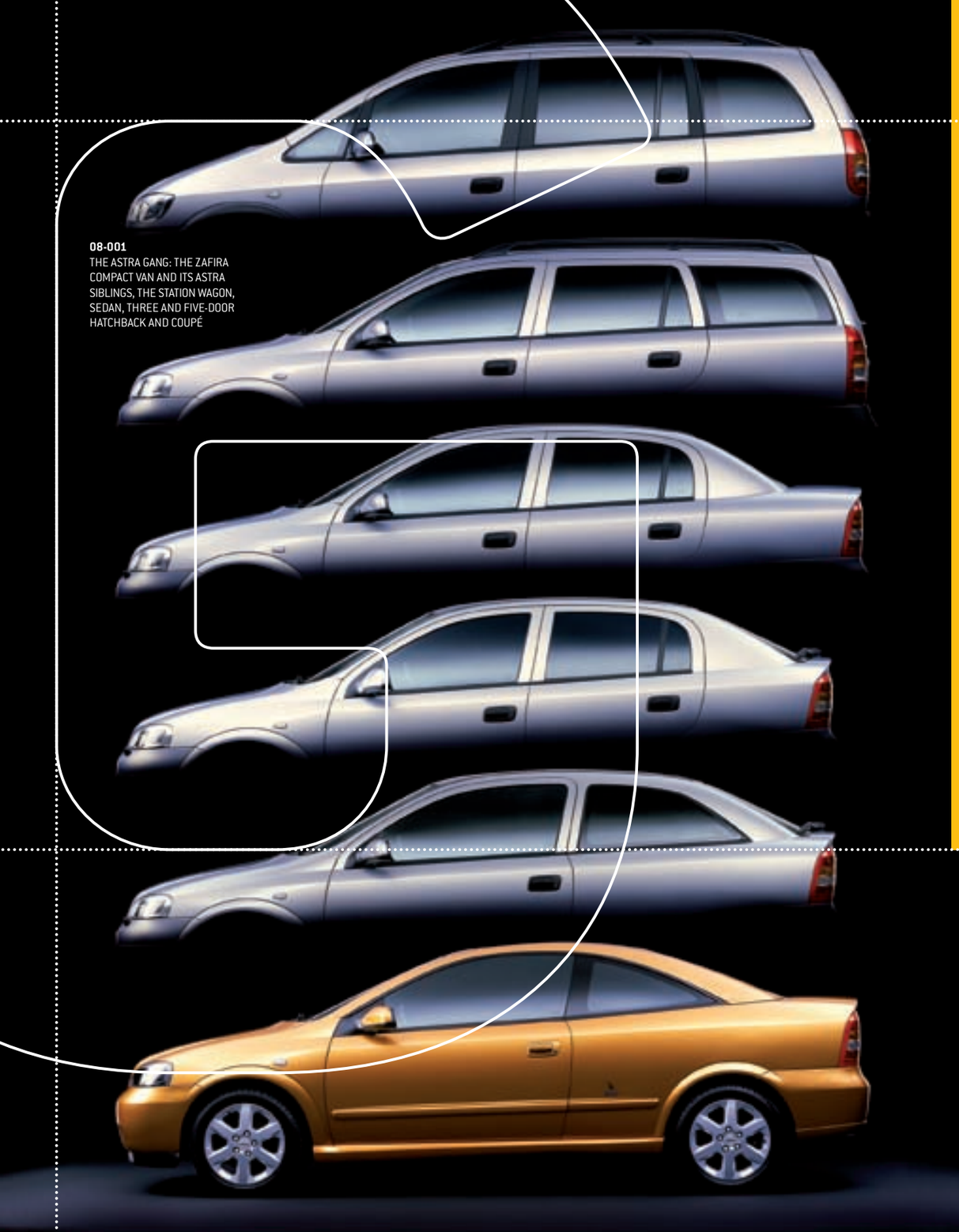
TECHNICAL DATA

BODY/CHASSIS	
BODY/CHASSIS DESIGN	Computer calculated, monocoque all steel body with 5 seats
FRONT WHEEL SUSPENSION	Independent suspension with McPherson struts, sub-frame used to mount control arm, stabilizer and engine
FRONT WHEEL SUSPENSION/DAMPING	Coil springs, telescopic shock absorbers, stabilizer
REAR WHEEL SUSPENSION	Compound control arm rear wheel suspension
REAR WHEEL SUSPENSION/DAMPING	Mini-block springs with progressive rate, telescopic shock absorbers, stabilizer
STEERING, TYPE	Rack and pinion steering (safety steering)
WHEELS, TYPE	Steel disk wheels, 5 1/2 x 13
TIRES, SIZE (BASE)	175/70 R 13 82

DIMENSIONS/WEIGHT	
LENGTH/WIDTH/HEIGHT (MM) (SEDAN)	4051 x 1688 x 1410
LENGTH/WIDTH – WITH MIRRORS/HEIGHT (MM) (STATION WAGON)	4278 x 1795 x 1525
LENGTH/WIDTH/HEIGHT (MM) (HATCH)	4239 x 1688 x 1410
LENGTH/WIDTH – WITH MIRRORS /HEIGHT (MM) (CABRIO)	4239 x 1795 x 1400
WHEEL BASE (MM)	2517
TRACK WIDTH FRONT/REAR (MM)	1430/1429
EMPTY WEIGHT (KG)	930 – 1145 (station wagon)

WHILE VISITING THE PLANT IN EISENACH, US PRESIDENT BILL CLINTON, BORN 1946, NOTED THAT THE OPEL EMPLOYEES WERE IMPRESSIVELY DEMONSTRATING WHAT THEY WERE CAPABLE OF AS FREE CITIZENS AFTER THE COLLAPSE OF THE EASTERN BLOC:

"IT IS NOT JUST THE TECHNOLOGY THAT IS IMPORTANT. THE TRUE SECRET IS THE SPIRIT OF THE PEOPLE WORKING AT THE OPEL PLANT IN EISENACH."



08-001
THE ASTRA GANG: THE ZAFIRA COMPACT VAN AND ITS ASTRA SIBLINGS, THE STATION WAGON, SEDAN, THREE AND FIVE-DOOR HATCHBACK AND COUPÉ

1998

OPEL ASTRA G

THE LEWINSKY AFFAIR IN THE WHITE HOUSE CONTRIBUTES TO IMPEACHMENT PROCEEDINGS AGAINST US PRESIDENT BILL CLINTON. CHRYSLER CORPORATION AND DAIMLER-BENZ AG ANNOUNCE THEY WILL MERGE. THE BEST-SELLING ALBUM OF THE YEAR IS THE SOUNDTRACK FROM THE MOVIE TITANIC. ONE OF THE GOALS COLLAPSES BEFORE THE CHAMPIONS LEAGUE GAME BETWEEN REAL MADRID AND BORUSSIA DORTMUND. HOST COUNTRY FRANCE WINS THE WORLD FOOTBALL CUP. THE SECOND ASTRA GENERATION IS LAUNCHED IN THE SPRING.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL ASTRA G
PRODUCTION PERIOD	1998–2004
NUMBER	2.29 MILLION TO DATE
BODY VARIANTS	+ THREE- AND FIVE-DOOR HATCHBACK
	+ FIVE-DOOR STATION WAGON
	+ FOUR-DOOR NOTCHBACK SEDAN
	+ TWO-DOOR COUPÉ
	+ TWO-DOOR CONVERTIBLE
	+ THREE-DOOR ASTRAVAN
ENGINES	GASOLINE: 1.2 L/65 HP, 1.2 L/75 HP, 1.4 L/90 HP, 1.6 L/75 HP, 1.6 L/100 HP, 1.6 L/84 HP, 1.6 L/97 HP, 1.6 L/101 HP, 1.6 L/103 HP, 1.8 L/116 HP, 1.8 L/125 HP, 2.0 L/136 HP, 2.0 L/160 HP, 2.0 L/192 HP, 2.0 L/200 HP, 2.2 L/147 HP
	DIESEL: 1.7 L/68 HP, 1.7 L/75 HP, 1.7 L/80 HP, 2.0 L/82 HP, 2.0 L/101 HP, 2.2 L/125 HP
SPECIAL CHARACTERISTICS	+ STILL IN PRODUCTION AS THE ASTRA CLASSIC IN GLIWICE, POLAND
	+ FIRST FULL FOUR-LITER CAR (ECO 4), FIRST OPC PRODUCTION MODEL
	+ ALSO AVAILABLE WITH NATURAL GAS PROPULSION AS THE 1.6 CNG

COMING OF AGE

SOME 3.95 MILLION UNITS HAVE BEEN SOLD SINCE THE SECOND ASTRA SERIES WAS LAUNCHED IN SPRING 1998. THE MODEL IS STILL BEING PRODUCED AS THE ASTRA CLASSIC IN GLIWICE, POLAND.

Progressive independent design, dynamic chassis and powertrain technology as well as nearly twice the torsional and flexural rigidity of its predecessor were just some of the characteristics of the completely new, second generation Opel Astra. The new model had a fully galvanized body on which the company gave a twelve-year guarantee against corrosion – an important factor when it comes to retaining value. The wheelbase had grown by around ten centimeters and was the largest in the compact class. This meant more interior space – in particular more rear knee room – and a larger trunk, which expanded to 370 liters. A split folding rear bench and backrest were standard and made for handy versatility.

The new model range also made a striking impression among its competitors with its unmistakable looks. The Astra G was defined by its fluid, technically-oriented design language, like the pronounced wedge form, the radiator grille integrated into the engine hood, the high belt line and the striking front and rear ends. This unmistakable look underlined qualities like stability, safety and sportiness.

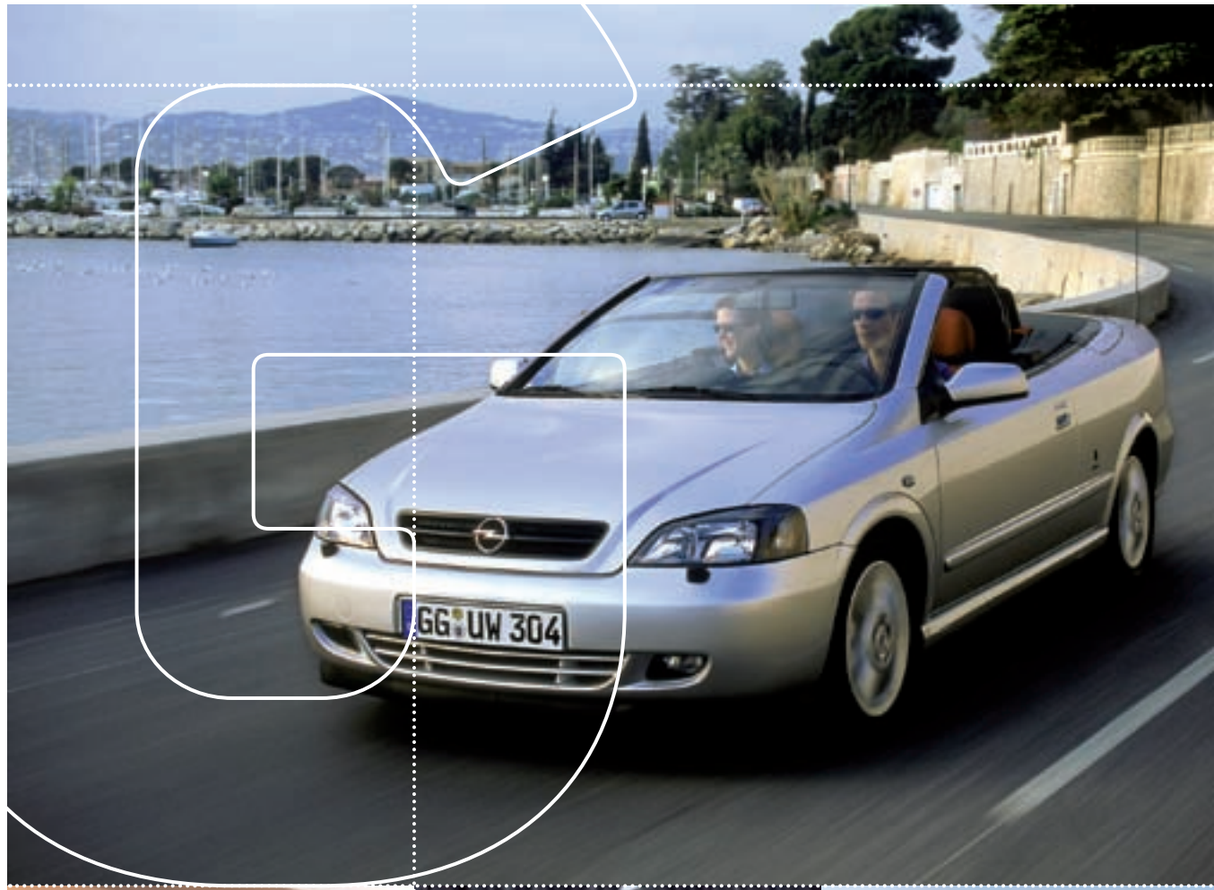
In spring 1998, the Astra with its coupé-like design was offered from the start as a three- and five-door hatchback and as a Caravan station wagon. A notchback sedan, coupé and convertible were added later. At its launch, the Astra was powered by engines ranging from 65 to 136 hp. Fuel consumption was reduced by up to 20% compared with its predecessor – despite further improvements in driving performance. At 6.1 liters per 100 km (MVEG standard), the Astra 1.2 16V was the most economical gasoline power plant in its class. A drag coefficient of 0.29 and intelligent lightweight technology with aluminum struts on the front axle and weight-optimized wheels played a major role in this.

Active safety was enhanced with a 30 percent increase in the luminous efficiency of the transparent H7 halogen headlamps and the completely redesigned Dynamic Safety (DSA) chassis. It combined comfort with agile and safe handling, even when fully loaded. Responsible were the wide track, insulated chassis sub-frame on the front wheel suspension, and the innovative compact rear axle – a clever construction that led to smaller wheelhouses and a wider trunk.

MILE STONE

WHEN STYLING THE NEW ASTRA, THE OPEL TEAM MADE PLENTY OF USE OF THE "ALIAS" SOFTWARE. ORIGINALLY DEVELOPED FOR COMPUTER-ANIMATED FILMS LIKE "JURASSIC PARK," THE PROGRAM ALLOWED THE TEAM TO WORK ON THE NEW MODEL IN A VIRTUAL, THREE-DIMENSIONAL ENVIRONMENT.

08-002
BEAST OF BURDEN: BAGS AND BAGS OF SPACE IN THE ASTRA CARAVAN

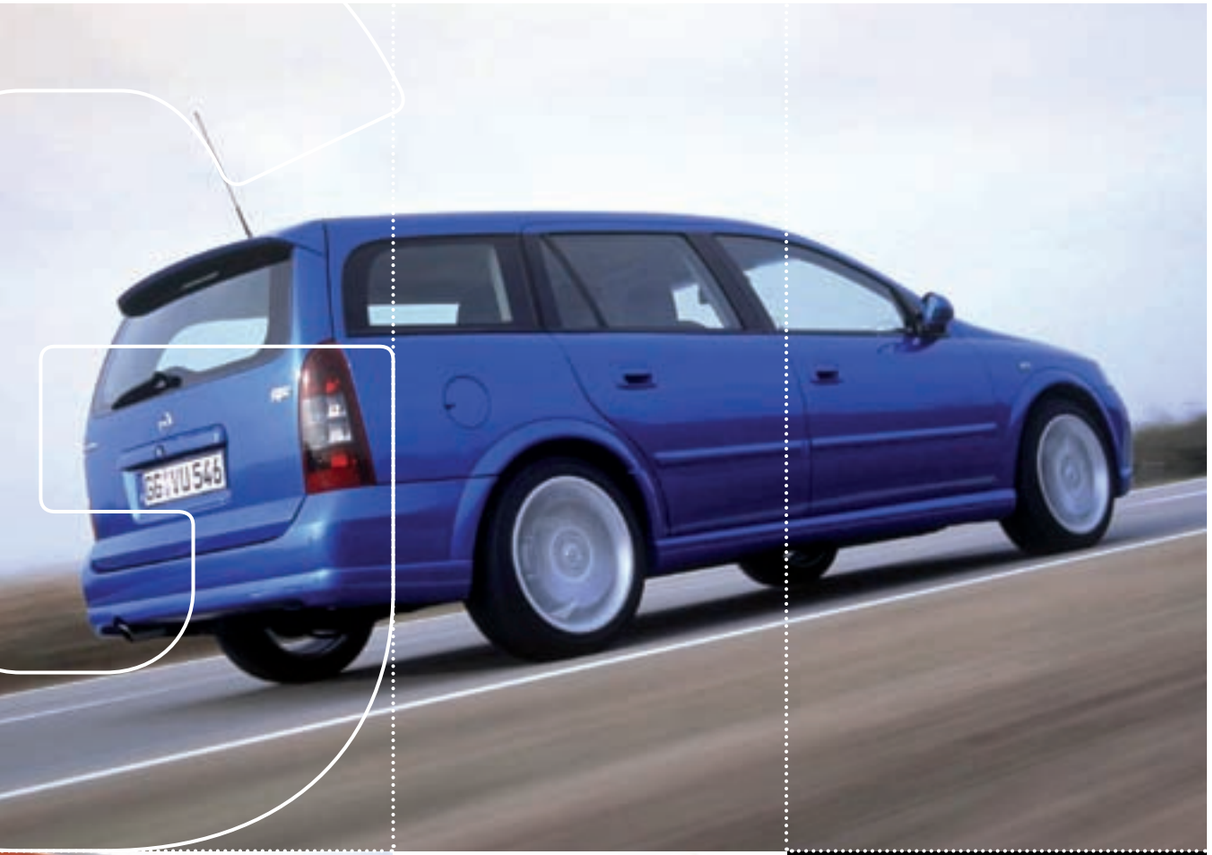


08-003
OPEN ENJOYMENT: THE DYNAMICALLY STYLED CONVERTIBLE WAS BASED ON THE COUPÉ

08-004
ROOMIER: THANKS TO ITS LONG WHEELBASE, THE ASTRA HAD ONE OF THE LARGEST INTERIORS OF ITS CLASS

08-005
FITNESS COURSE: THE NEW BODY LANGUAGE EMPHASIZED QUALITIES SUCH AS SPORTINESS, STABILITY AND SAFETY

08-006
BEAUTY TREATMENT: THE ELEGANT COUPÉ WAS ALSO AVAILABLE WITH A TURBOCHARGED ENGINE



08-007
NIPPY PORTER: THE OPC SPORTS MODEL WAS ALSO AVAILABLE AS A STATION WAGON

08-008
TEMPERATE DRINKER: THE ASTRA ECO 4 HAD AN IMPRESSIVE RANGE AS A FOUR-LITER CAR

08-009
OUTSTANDING STABILITY: THE TORSIONAL AND FLEXURAL RIGIDITY WAS ALMOST DOUBLED

08-010
CONJURER: THE FLEX7 SEAT SYSTEM OF THE ASTRA-BASED ZAFIRA ALLOWED MANY DIFFERENT SEAT CONFIGURATIONS

THE MOST IMPORTANT INNOVATIONS

THE ASTRA G MARKED AN IMPORTANT MILESTONE, ESPECIALLY UNDER THE HOOD: AFFORDABLE FUEL-SAVING TECHNOLOGIES WERE INTRODUCED IN THE GASOLINE AND DIESEL MODELS.

ASTRA ECO 4

In 2000, Opel presented the Astra Eco 4, the first four-liter car in the compact class. According to the MVEG standard, the innovative and affordable fuel saver (equipped with the 75 hp 1.7 DTI 16V power unit) used just 4.4 liters of diesel per 100 km. The exterior of the Eco 4 differed from other Astra models in its unobtrusive rear spoiler and smaller front inlet openings. It also sported low roll-resistance tires, lightweight suspension struts and hollow damper piston rods.

DIESEL OFFENSIVE

For the first time in the compact class, a combination of direct injection and four-valve technology was available when the new model generation was launched: the 2.0 DTI 16V. In 2002 as the world's first production diesel-powered vehicle, the Astra 1.7 CDTI complied with the specifications of the Euro-4 emissions standard three years ahead of time.

ASTRA OPC

In autumn 1999, the first Astra OPC sports version was launched in a small series of 3,000 vehicles with a 160 hp 2.0-liter engine. The high-performance naturally aspirated engine served as a basis for homologation for motor racing. It was followed in 2002 by a second version of the OPC with a 200 hp turbocharged engine.

TWINPORT

With the innovative Twinport technology in 2002, Opel succeeded in reducing fuel consumption. "A great idea from Opel," wrote the German daily "Bild" newspaper on March 23, 2003. The tabloid compared an Astra fitted with the 103 hp Twinport four-cylinder unit with its immediate predecessor model using a conventional 100 hp unit (both 1.6 liters). It found that Twinport technology reduced fuel consumption by 11 percent. The intelligent solution was based on a variable intake control combined with high exhaust gas recirculation rates.

MILE STONE

BEATE HERZOG FROM KARLSRUHE WON THE "TOUR AGAINST THE CLOCK" IN 2000, THE BIGGEST FUEL-SAVING EVENT IN THE WORLD. WITH AN ASTRA ECO 4, SHE DROVE FROM SAARBRÜCKEN TO RÜSSELSHEIM BURNING ONLY 1.953 LITERS PER 100 KM.

PRODUCTION

There were many innovations connected with the production of the new Astra. For example, the sub-frame supporting the new front axle was no longer manufactured conventionally from two welded half-shells, but shaped by a hydroforming process through high water pressure. The rear axle was also manufactured by a welding technique called Magnetarc. Used for the first time in production, this process welds the rear cast iron axle strut to the steel axle tube without adding any material.

STEERING

The Opel Astra was one of the first representatives of the compact class to feature combined Electro Hydraulic Power Steering (EHPS). It had many advantages over conventional systems, including lower fuel consumption.

CLUTCH

For the first time, the Astra had a maintenance-free hydraulic clutch. Compared with the cable control used in previous models, this system offered greater comfort and lower weight. The pedal forces were lower, clutch dosage improved and the transmission of noise and vibrations to the passenger compartment reduced.

PEDAL RELEASE SYSTEM

The Astra was the first compact model with decoupling safety pedals. Opel's patented Pedal Release System (PRS) disengages the clutch and brake pedals from their bearings in the event of a serious head-on collision, reducing the risk of injury to the driver's feet and ankles.

ZAFIRA

The Astra architecture also was used for the innovative Zafira compact van, which defined a new market segment in 1999. Thanks to its Flex7 seating concept, it had outstanding versatility. The comfortable five-seater could be turned quickly and easily into a seven-seater without the complication of installing seats.

TWINPORT: VARIABLE INTAKE CONTROL SAVES FUEL

TO REDUCE FUEL CONSUMPTION IN SMALL GASOLINE ENGINES, OPEL INTRODUCED IN 2000 THE TWINPORT TECHNOLOGY ON THE ASTRA AND CORSA.

With gasoline engines, a large proportion of the consumption disadvantage compared with diesel units is caused by throttling losses. The simplest way to reduce these losses is to dilute the charge with exhaust gas, which means that exhaust gas from previous combustion cycles is fed to the engine in addition to the fresh air mixture. However, in order to keep consumption fast and stable despite the high exhaust gas recirculation rates, the movement of the charge has to be intensified. This is precisely what Opel engineers did with the variable intake control of the Twinport concept. This innovative Opel technology was introduced in 2002 in the Astra and Corsa 1.4 and 1.6-liter gasoline models.
In partial-load operation, an intake port of the four-valve unit is throttled directly ahead of the cylinder and the fresh charge enters the cylinder eccentrically. Turbulence is created around the cylinder axle, allowing complete, reliable combustion. When full power is required, the second channel comes into play, ensuring optimal filling of the combustion chamber.
To apply the Twinport concept successfully, it was necessary to optimize the intake channels and the mixture formation ahead of and in the cylinder. To do this, the Opel engineers made simultaneous use of flow simulations on the computer and video observations of the real engine.

08-011
INTAKE CONTROL: OPEL INTRODUCED THE TWINPORT SYSTEM TO LOWER CONSUMPTION ON SMALL GASOLINE ENGINES

08-012
PERFORMANCE BONUS: WHEN FULL POWER WAS NEEDED, BOTH CHANNELS WERE SWITCHED ON, BUT AT PARTIAL LOAD, ONE INTAKE CHANNEL WAS THROTTLED (RIGHT)

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Computer calculated, fully galvanized all steel monocoque body with 5 seats, aluminum reinforcements in the doors
FRONT WHEEL SUSPENSION	Independent suspension with McPherson struts, de-coupled sub-frame for front axle, steering and engine/drive unit
FRONT WHEEL SUSPENSION/DAMPING	Coil springs, gas pressure shock absorbers, stabilizer
REAR WHEEL SUSPENSION	Compound axle on longitudinal control arms
REAR WHEEL SUSPENSION/DAMPING	Coil springs, gas pressure shock absorbers, stabilizer
STEERING, TYPE	Electro-hydraulic assisted rack and pinion steering
WHEELS, TYPE	Steel disk wheels, 6 J x 15
TIRES, SIZE (BASE)	195/60 R 15 T

DIMENSIONS/WEIGHT

LENGTH/WIDTH/HEIGHT (MM) (HATCH)	4111 x 1709 x 1425
LENGTH/WIDTH/HEIGHT (MM) (STATION WAGON)	4288 x 1709 x 1465
LENGTH/WIDTH/HEIGHT (MM) (NOTCH)	4252 x 1709 x 1425
LENGTH/WIDTH/HEIGHT (MM) (CONVERTIBLE)	4267 x 1709 x 1390
WHEEL BASE (MM)	2606/2611 (station wagon)
TRACK WIDTH FRONT/REAR (MM)	1464/1452 resp. 1484/1472
EMPTY WEIGHT KG	1070 – 1235 (station wagon) resp. 1240–1400 (coupé)

VOLKER STRYCEK, BORN 1957, TALKED ABOUT THE OPC X-TREME STUDY, PRESENTED IN 2001 IN HIS CAPACITY AS HEAD OF OPEL MOTOR SPORTS. WITH ITS 444 HP V8 ENGINE, THE GULLWING DOOR MODEL WAS THE FASTEST ROAD-LEGAL OPEL OF ALL TIME

"WE WANTED TO SHOW PASSION AND EMOTION, AND WE WANTED TO SHOW THAT OPEL CAN PLAY IN THE CHAMPIONS LEAGUE OF CAR DESIGN ANY DAY. FOR OUR ENGINEERS AND DESIGNERS, THE ASTRA OPC X-TREME PROJECT WAS BOTH A CHALLENGE AND A MOTIVATION."

09-001
IN ITS ELEMENT: THE OPC LIMITED EDITION "NÜRBURGRING" WAS AT HOME ON THE TRADITIONAL RACE TRACK

2004

OPEL ASTRA H

LANCE ARMSTRONG WINS THE TOUR DE FRANCE FOR THE SIXTH TIME. WITH ESTONIA, LATVIA, LITHUANIA, MALTA, POLAND, SLOVAKIA, SLOVENIA, THE CZECH REPUBLIC, HUNGARY AND THE REPUBLIC OF CYPRUS, THE EUROPEAN UNION GAINS TEN NEW MEMBERS. MICHAEL SCHUMACHER IS THE FORMULA 1 WORLD CHAMPION FOR THE SEVENTH TIME. GEORGE W. BUSH IS RE-ELECTED US PRESIDENT FOR ANOTHER FOUR YEARS. IN THE EUROPEAN FOOTBALL CHAMPIONSHIPS IN PORTUGAL, GREECE SURPRISINGLY WINS THE TROPHY. THE ASTRA H IS LAUNCHED.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL ASTRA H
PRODUCTION PERIOD	SINCE 2004
NUMBER	2.2 MILLION (AS OF JULY 2008)
BODY VARIANTS	+ FIVE-DOOR HATCHBACK
	+ FIVE-DOOR STATION WAGON
	+ THREE-DOOR GTC
	+ TWO-DOOR TWINTOP
	+ THREE-DOOR OPC
	+ FOUR-DOOR SEDAN (NOT ON ALL MARKETS)
	+ FIVE-DOOR PANEL VAN (NOT ON ALL MARKETS)
ENGINES	GASOLINE: 1.6 L/115 HP, 1.8 L/140 HP, 1.6 L/180 HP, 2.0 L/200 HP, 2.0 L/240 HP
	DIESEL: 1.3 L/90 HP, 1.9 L/100 HP, 1.7 L/110 HP, 1.9 L/120 HP, 1.7 L/125 HP, 1.9 L/150 HP
SPECIAL CHARACTERISTICS	+ PREMIERE OF THE ELECTRONIC CDC IN THE COMPACT CLASS.
	+ IN AUTUMN 2007, THE ASTRA IS LAUNCHED IN THE UNITED STATES UNDER THE SATURN BRAND.
	+ THE ASTRA GTC IS BEST-SELLING COMPACT THREE-DOOR MODEL IN 2007 IN EUROPE.

MORE TECHNOLOGY, HIGHER DYNAMICS

WITH TWELVE ENGINES RANGING FROM 90 TO 240 HP AND SEVEN BODY VARIANTS, THE CHOICE OF MODELS WITH THE CURRENT ASTRA IS EXCEPTIONAL. DYNAMIC DESIGN AND PLENTY OF SPACE ARE FURTHER STRENGTHS OF THE ASTRA H, OF WHICH 2.2 MILLION HAVE BEEN SOLD SINCE LAUNCH.

When it was launched in March 2004, the third-generation Opel Astra boasted a progressive design, high driving dynamics and plenty of technical innovations. Throughout its life cycle, it has won numerous comparison tests in specialist automotive publications in countries all over the world.

The model is currently available with 12 engine variants with an output range of 90 to 240 hp. Most impressive from the consumer point of view is the 1.7 CDTI ecoFLEX with 110 hp: It sips just 4.5 liters of diesel per 100 kilometers, equivalent to 119 g/km CO_2. Technological highlights are features usually only found in luxury class and exclusive sports cars, like the adaptive IDS^{Plus} chassis system with electronic Continuous Damping Control (CDC) and Adaptive Forward Lighting (AFL) headlamp system with dynamic curve light.

The Astra offers passengers plenty of space, especially in the station wagon which has a longer wheelbase. The third member of the Astra model family is the three-door GTC (Gran Turismo Compact), which is also available as the high-performance OPC variant with 177 kW/240 hp engine. The Astra family is completed by the four-seat Astra TwinTop – a cabrio-coupé with steel retractable roof – and the notchback variant on sale in southern and eastern europe.

With its dynamic appearance, the Astra five-door model sets itself apart from its competitors. Well-balanced proportions are the basis for its harmonious body line. It also has attractive packaging dimensions, producing a comfortable "feel good" interior.

The Astra also boasts high levels of safety. The consumer protection organization Euro NCAP (European New Car Assessment Programme) awarded the Astra the highest rating of five stars for adult passenger protection. With a total of 34 points, Euro NCAP classified the Astra as one of the safest sedans in the compact class (small family cars).

The Astra's standard SAFETEC safety package includes thorax/pelvis side airbags in both front seats. These complement the two front airbags and the head curtain airbags that stretch along the entire length of the interior in the left and right roof pillars.

09-002
HIGH PERFORMER: GENERATING A HEFTY 240 HP, THE ASTRA OPC IS EVEN A MATCH FOR THOROUGHBRED SPORTS CARS

MILESTONE

"WHICH NEW CAR IN THE COMPACT CLASS DID YOU LIKE BEST AT THE IAA?" ASKED "AUTO MOTOR UND SPORT" ON ITS WEBSITE IN 2003. THE NEW ASTRA WON OVERWHELMINGLY WITH 52 PERCENT OF THE VOTE.

09-003
HAIRPIN SPECIALIST: THE THREE-DOOR GTC HAS ITS OWN COUPÉ DESIGN

09-004
SHINING LIGHT: THE HEADLAMPS BEHIND CLEAR GLASS ARE A STRIKING FEATURE OF THE THIRD ASTRA GENERATION

09-005
SELECTION PROCEDURE: THE NOTCHBACK SEDAN MODEL IS ONLY AVAILABLE ON CERTAIN MARKETS

09-006
SUMMER FUN: THE ROOF OF THE ASTRA TWINTOP OPENS IN 30 SECONDS

09-007
FURTHER GROWTH: THE AMOUNT OF SPACE IN THE STATION WAGON COMES FROM ITS LONGER WHEELBASE

09-008
PERFECT VISIBILITY: AN ATTRACTIVE PANORAMIC WINDSHIELD IS AVAILABLE FOR THE ASTRA GTC

09-009
PLENTY OF POTENTIAL: THE WINNERS OF OPEL'S RACING DRIVER CASTING COMPETITION "OPC RACE CAMP"

09-010
CLEVER SOLUTION: THE THREE-PART FOLDING ROOF OF THE ASTRA TWINTOP RESULTED IN A COMPARATIVELY LARGE TRUNK

THE MOST IMPORTANT INNOVATIONS

THE CURRENT OPEL ASTRA MOVES TO THE TOP OF ITS SEGMENT WITH MANY TECHNICAL FEATURES THAT ARE STILL NOT YET SEEN IN COMPETITORS' COMPACT CLASS CARS.

CONTINUOUS DAMPING CONTROL

In 2004, Opel introduces electronic CDC to the compact class for the first time. CDC, based on four shock absorbers controlled via solenoid valves, responds automatically to a particular driving situation, payload and road surface. In addition, the driver can activate a sport set-up via a switch on the dashboard.

AFL HEADLAMPS

First in class, the Astra is available with bi-xenon headlamps that swivel with the steering. The AFL system combines the functions of dynamic cornering light and motorway light. It works in relation to the car's speed, steering angle and yaw rate. With the cornering light, the headlamps shine into upcoming bends, lighting country roads at night for safer and less strenuous driving.

POWER DIESEL

An all new four-cylinder engine gives Opel a leading position in the field of compact diesels. Its performance figures are best in class: None of its classmates can match the 150 hp generated at 4,000 rpm from a capacity of only 1.9 liters. With a maximum torque of 315 Nm at 2,000 rpm, the most powerful diesel unit for the new Astra is also at the top of its class in elasticity.

TOP-CLASS RACER

The Astra OPC launched in 2005 is one of the most powerful production front-wheel drive cars in the world that penetrates deep into the territory of established sports cars. The 177 KW/240 hp 2.0-liter turbocharged gasoline engine accelerates the coupe-like, three-door OPC to 100 km/h within 6.4 seconds, and assures a top speed of 244 km/h. A fuel consumption figure of 9.2 liters per 100 km underlines the outstanding efficiency of the power plant. The engine is mated with a sports-tuned six-speed manual transmission. Like all OPC models, this Astra has been given its final tuning by two-time Le Mans winner Manuel Reuter.

PANORAMIC WINDSHIELD

The panoramic windshield in the Astra GTC – the first time ever seen in a series vehicle – extends from the hood right through to the B-pillar, offering a completely new experience in space and visibility.

RETRACTABLE HARDTOP

The Astra TwinTop sports an innovative three-part roof system that opens and closes at the press of a button in less than 30 seconds. Because the individual sections of the system are smaller than those found on conventional convertible coupés, there is more room for the passengers and baggage. With the top down, it offers 205 liters of baggage space. With the roof closed, 440 liters. Another unique feature in this class is the electrically operated "Easy Load" system, enabling bags to be effortless stored even when the top is stowed away in the trunk.

OPC RACE CAMP

Over 18,500 candidates applied in 2007 for a place in the OPC Race Camp, a race driver casting competition organized in Germany by Opel. For the ten most talented drivers, the dream of a racing driver career came true in the 24-hour race at the Nürburgring in 2008, where they competed in Astra OPCs.

MILESTONE

THE DOOR KEY CAN BE USED TO "PERSONALIZE" THE ASTRA: IT AUTOMATICALLY SAVES PREFERENCES LIKE FAVORITE RADIO STATIONS.

COMPLETELY NEW SENSE OF SPACE AND VISIBILITY

THE UNIQUE PANORAMIC WINDSHIELD IN THE ASTRA GTC OFFERS ALMOST UNRESTRICTED VISION. THERE IS NO CROSSBEAM TO SPOIL THE VIEW.

The panoramic windshield, seen for the first time in a series vehicle and available exclusively in the GTC, offers a completely new experience in terms of space and visibility. Both the pilot and the co-pilot in the GTC can enjoy an almost undisturbed view – much like the cockpit in a two-seater airplane. The 1.50-meter long and, on average, 1.16-meter wide window extends in one piece from the hood up into the roof as far as the B-pillar with no cross-beam spoiling the view.

"You experience your surroundings in a completely different way and think you are driving along a road for the first time even though you may have traveled it hundreds of times before," says Matthias Hallik, responsible for new body concepts at General Motors Europe and the spiritual father of the panoramic windscreen. To protect the occupants from direct sunlight, the panoramic GTC has heat-insulating Solar-Protect glass and a sophisticated shading system with integrated sun visors.

The windshield is produced using a so-called "gravity bending" technique – a very complicated process for glass of this thickness and area (around 1.8 sqm). The flat glass is first heated at specific points in a special oven. Then, as it reaches a preset temperature, it adopts the desired form under the force of gravity alone.

Vehicles offering a special visibility experience have a long tradition at Opel and its parent company General Motors: The 1950 Buick LeSabre also had a panoramic windshield and, during that decade, Opel launched models with a full-vision panoramic windshield.

09-011/09-012
HERITAGE: THE OPEL KAPITÄN (1958) AND THE BUICK LESABRE (1950) WITH THEIR PANORAMIC WINDSHIELDS SERVED AS ROLE MODELS FOR THE GTC

09-013
UNHINDERED VIEW: THE 1.8 SQUARE METER FIELD OF VISION OF THE ASTRA GTC WITH ITS PANORAMIC ROOF OPENS UP COMPLETELY NEW PERSPECTIVES

TECHNICAL DATA

BODY/CHASSIS

BODY/CHASSIS DESIGN	Computer calculated, fully galvanized all steel monocoque body with 5 seats
FRONT WHEEL SUSPENSION	Suspension-strut-type axle, McPherson strut, by A-frame arm leaded to chassis sub-frame
FRONT WHEEL SUSPENSION/DAMPING	Twin tube gas pressure shock absorber; IDS+: Twin tube gas pressure shock absorber electronically controlled
REAR WHEEL SUSPENSION	Compound link suspension, torsion tube design with two welded on cast iron control arms, both sides progressive, double conical mini-block spring with tapered spring wire diameter
REAR WHEEL SUSPENSION/DAMPING	Twin tube gas pressure shock absorber; IDS+: Twin tube gas pressure shock absorber electronically controlled
STEERING, TYPE	Electro-hydraulic assisted rack and pinion steering
WHEELS, TYPE	Steel disk wheels, 6 1/2 x 15
TIRES, SIZE (BASE)	195/65 R 15 91T

DIMENSIONS/WEIGHT

LENGTH/WIDTH/HEIGHT (MM) (5-DOOR)	4249 x 1804 x 1460
LENGTH/WIDTH/HEIGHT (MM) (GTC)	4290 x 1804 x 1435
LENGTH/WIDTH/HEIGHT (MM) (TWINTOP)	4476 x 1831 x 1411
WHEEL BASE (MM)	2314
LENGTH/WIDTH/HEIGHT (MM) (STATION WAGON – 5-DOOR)	4515 x 1804 x 1500 ; 4618 x 1754 x 1458; 2703
TRACK WIDTH FRONT/REAR (MM)	1488/1488 (TwinTop: 1488/1481)
EMPTY WEIGHT KG	1220 – 1515

KURT WENGER, BORN 1975, A SALESMAN FROM SWITZERLAND AND A FINALIST IN THE OPC RACE CAMP:

"A FANTASTIC IDEA, THIS OPC. FOR ME IT WAS AN OPPORTUNITY TO MAKE A DREAM COME TRUE. WHAT I'VE LEARNED FROM PROFESSIONALS LIKE MANUEL REUTER AND WHAT I'VE GAINED IS UNIQUE: NOT ONLY ABOUT DRIVING, BUT ALSO ABOUT THE HUMAN ASPECTS LIKE STICKING TOGETHER AND TEAMWORK."

10-001
CAMOUFLAGE: THE NEXT ASTRA IS STILL BEING TESTED UNDER WRAPS

2009

THE NEXT ASTRA

THE 44TH PRESIDENT OF THE UNITED STATES IS SWORN IN. THE CZECH REPUBLIC AND SWEDEN SHARE THE PRESIDENCY OF THE EUROPEAN UNION, EACH FOR SIX MONTHS. SLOVAKIA INTRODUCES THE EURO. THE LONGEST ECLIPSE OF THE SUN IN THE 21ST CENTURY OCCURS JULY 22, 2009 IN CHINA. OPEL'S TENTH COMPACT CLASS GENERATION PREMIERES AT THE IAA.

MODEL GENERATION – FACTS AND FIGURES

SERIES	OPEL ASTRA I
PRODUCTION START	LATE 2009
BODY VARIANTS	STARTS WITH FIVE-DOOR HATCH
SPECIAL CHARACTERISTICS	INNOVATIVE TECHNOLGIES NEW TO THE COMPACT CLASS

COMING SOON…

A COMPLETELY NEW CAR: WITH A BOLD DESIGN LANGUAGE AND AMBITIOUS TECHNOLOGY, THE NEXT ASTRA REDEFINES THE COMPACT CLASS IN 2009.

"The Opel Insignia has newly interpreted the mid-size segment. Now, with its dynamic design and innovative technology – much of which has been the preserve of higher-class vehicles before now – the new Astra generation will continue the pioneering role of its large model brother," says Alain Visser, Chief Marketing Officer at GM Europe, describing the future model. "To put it in a nutshell, the next Astra will carry the spirit of the Insignia into the compact class."

The all new fourth Astra generation will make its world debut as a five-door hatchback at the 2009 IAA (September 17–27) in Frankfurt, Germany. "Sculptural artistry meets German precision – that was our design claim with the Insignia and it remains so with the new Astra but with an even more sporty presence," explains Mark Adams, Vice President of Design at GM Europe. "The present Astra already combines a high level of technical substance with emotional styling. You can see that most clearly with the Astra GTC. With the next Astra generation we are taking another big step forward in both respects and emphasizing its sporty credentials."

With its flowing lines, the next Astra will carry on from the Insignia. At the same time, it will pick up on design features that have been found in many models throughout Opel's history – especially in the compact class. The integrated front headlamps of the first Kadett of 1936 are one example. Another is the aerodynamic design of the 1984 Kadett E. Other areas in which the next Astra will evolve the Opel language are its proportions, which give the car its sporty and muscular look. Typical style characteristics of the new, finer design language – elements like the flowing dynamic surfaces, the signature sculpted blade and the warm, wrap-around interior theme with wing-line sweep that links the instrument panel to the door – are found in modified form in the new compact class model. Also characteristic is the high attention to detail and craftsmanship. It could well set new standards in its class.

Hans Demant, Managing Director Adam Opel GmbH, referring to the present Astra, whets people's appetite for the next generation: "Just think of all the innovations Opel has introduced into the previous compact class generations. Moreover, the current Astra is the most innovative compact class model Opel has ever built. It cost us a great deal of effort, but it has placed us among the leaders in the market on a permanent basis. It made the development of the next Astra generation an even bigger challenge, but it was one we were pleased to take up."

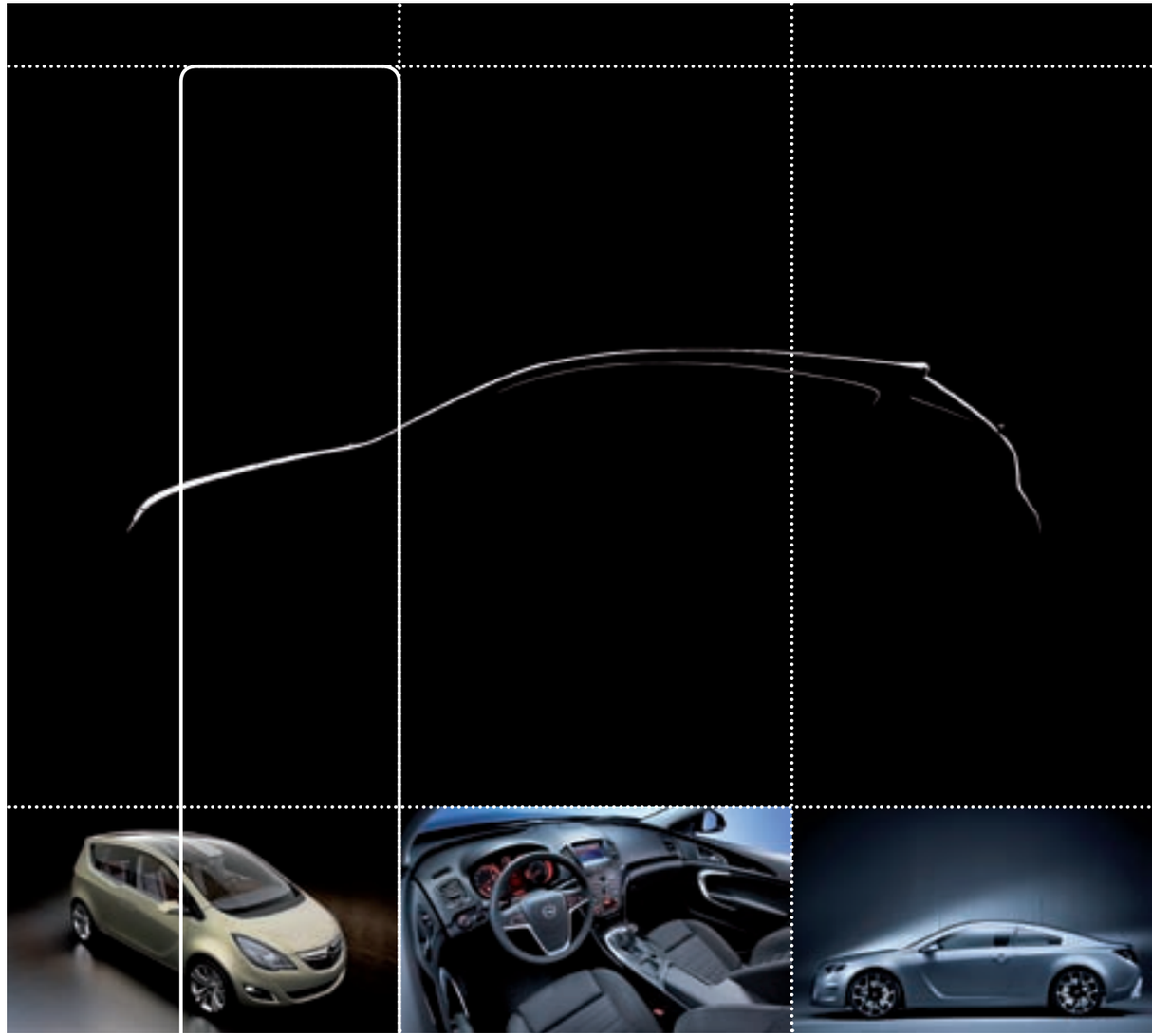
With technical innovations like the Adaptive Forward Lighting (AFL) headlamp system, which has been taken to a higher level and supplemented by new functions, and the "Opel Eye," the new compact class generation will once again assume an outstanding position in this segment.

The all-new chassis will be mated with equally new engines designed following the right-sizing concept that combines high low-end torque with moderate fuel consumption.

Versatility is another traditional strength of Opel vehicles, as demonstrated by the FlexFix integrated rear end carrier in the Corsa and Antara. The new Astra will also pick up on clever and practical ideas like this.

MILE STONE

WORLD PREMIERE OF THE TENTH COMPACT CLASS GENERATION ON SEPT 17, 2009 AT THE FRANKFURT MOTOR SHOW.



10-002
DYNAMIC CONTOURS: THE SILHOUETTE OF THE NEXT ASTRA IS AN INDICATION OF ITS SPORTY APPEARANCE

10-003
FINGER EXERCISE: THE OPEL MERIVA CONCEPT (GENEVA 2008) SHOWS OFF ITS ATHLETIC BODY

10-004
PARALLELS: THE SWEEPING INSTRUMENT PANEL OF THE INSIGNIA EXTENDS THROUGH TO THE DOORS

10-005
STYLE ELEMENT: THE OPEL GTC CONCEPT (GENEVA 2007) SHOWS FOR THE FIRST TIME THE BLADE-SHAPED CHARACTER LINE IN THE SIDE

10-006
INSPIRATION: THE BODY LANGUAGE OF THE NEXT ASTRA PICKS UP ON THE NEW OPEL DESIGN VOCABULARY THAT WAS INTRODUCED WITH THE INSIGNIA

10-007
ENLIGHTENMENT: WITH ITS ADDITIONAL LIGHT FUNCTIONS, THE REFINED AFL SYSTEM MAKES DRIVING THE ASTRA EVEN SAFER

10-008
DUAL FUNCTION: THE "OPEL EYE" DRIVER ASSISTANCE SYSTEM CAN READ ROAD SIGNS AND WARN AGAINST UNINTENTIONAL LANE DEPARTURE

TECHNICAL INNOVATIONS

THE OPEL PHILOSOPHY HAS ALWAYS BEEN TO MAKE TOP-LEVEL INNOVATIVE TECHNOLOGY AFFORDABLE FOR A WIDE RANGE OF BUYERS. ACCORDINGLY, THE NEW COMPACT CLASS GENERATION WILL OFFER PLENTY OF COMFORT AND SAFETY FEATURES THAT HAVE PREVIOUSLY BEEN CONFINED TO HIGHER SEGMENTS. HERE ARE JUST TWO OF THE MANY EXAMPLES.

CAMERA SYSTEM

When it made its debut in the Insignia, the driver assistance system "Opel Eye" created considerable buzz as a safety innovation. In the compact class, the camera system will create at least as much of a stir. "Opel Eye" will make driving the Astra safer. A camera integrated between the interior mirror and the windshield assists drivers in two ways. The traffic sign recognition function scans traffic signs that indicate speed limits or overtaking bans and displays them in the instrument panel. In addition, a lane departure warning alerts drivers if they unintentionally leave their chosen lane. Both systems improve traffic safety, reduce stress and help avoid expensive fines.

NEXT GENERATION CORNERING LIGHT

Around 80 percent of all road accidents occur at night. This is where the upgraded AFL system in the next Astra comes into its own, helping drivers to see better at night. It is also evidence of how Opel is democratizing active safety. The Astra H was the first compact class car to offer AFL lighting with steering-linked bi-xenon headlamps. The AFL system on this next generation will offer a variety of light functions, providing better visibility because AFL automatically adapts to different road and driving conditions.

PHIL ZAK, BORN 1965, DIRECTOR OF EXTERIOR DESIGN AT GM EUROPE
"OTHERS MAY PREFER A MORE CONSERVATIVE APPEARANCE IN THE COMPACT CLASS – WE DON'T. WITH ITS SPORTY, MUSCULAR YET FLOWING LOOK, THE NEXT ASTRA WILL LEAD WITH ITS COMBINATION OF SPORTY STYLE, REFINEMENT AND HIGH QUALITY OF EXECUTION. WITH THE OPEL INSIGNIA, WE INTRODUCED A NEW DESIGN LANGUAGE, AND THE NEXT ASTRA WILL BE A DIFFERENT INTERPRETATION OF THAT."

OPEL CLASSIC

COMPACT CARS IN THE OPEL CLASSIC COLLECTION

ABOUT 75 COMPACT CARS FROM 1938 TO 2008 ARE DISPLAYED IN THE OPEL CLASSIC COLLECTION IN RÜSSELSHEIM, GERMANY. THE FOLLOWING PAGES LIST BASIC FACTS ABOUT OPEL'S MOST IMPORTANT WITNESSES OF THIS CAR SEGMENT.

MODEL KADETT 38 4-DOOR SEDAN
PRODUCTION YEAR 1938
ENGINE 1.0 L/23 HP

MODELL KADETT B 2-DOOR SEDAN
PRODUCTION YEAR 1967
ENGINE 1.1 L/55 HP

MODELL OSV 40, BASED ON KADETT C
BAUJAHR 1974
ENGINE 1.2 L/60 HP
SPECIAL CHARACTERISTICS OPEL SAFETY VEHICLE

MODEL KADETT 38 CONVERTIBLE SEDAN
PRODUCTION YEAR 1938
ENGINE 1.1 L/23 HP

MODELL RALLYE KADETT B "SPRINT"
PRODUCTION YEAR 1971
ENGINE 1.9 L/106 HP
SPECIAL CHARACTERISTICS RALLYE CAR DRIVEN BY ANDERS KULLÄNG

MODEL KADETT C "CITY"
PRODUCTION YEAR 1978
ENGINE 1.2 L/60 HP
SPECIAL CHARACTERISTICS DESIGN STUDY

MODEL KADETT A 2-DOOR SEDAN
PRODUCTION YEAR 1962
ENGINE 1.0 L/40 HP
SPECIAL CHARACTERISTICS TRAVELED 318000 KM

MODEL KADETT B COUPÉ
PRODUCTION YEAR 1966
ENGINE 1.1 L/55 HP
SPECIAL CHARACTERISTICS GILL VENTILATION SLITS

MODEL KADETT C AERO
PRODUCTION YEAR 1978
ENGINE 1.6 L/75 HP
SPECIAL CHARACTERISTICS 1242 UNITS PRODUCED

MODELL KADETT A COUPÉ
PRODUCTION YEAR 1963
ENGINE 1.0 L/48 HP

MODEL KADETT C SEDAN
PRODUCTION YEAR 1977
ENGINE 1.2 L/52 HP

MODELL KADETT C GT/E
PRODUCTION YEAR 1977
ENGINE 2.0 L/115 HP
SPECIAL CHARACTERISTICS 1000 SERIES

MODELL KADETT B LS
PRODUCTION YEAR 1967
ENGINE 1.1 L/55 HP

MODEL KADETT C 2-DOOR SEDAN
PRODUCTION YEAR 1975
ENGINE 1.2 L/52 HP

MODEL KADETT C, GT/E
PRODUCTION YEAR 1976
ENGINE 2.0 L/212 HP
SPECIAL CHARACTERISTICS TRAINING CAR DRIVEN BY WALTER RÖHRL AND JOCHEN BERGER

MODEL KADETT E CARAVAN "CLUB"
PRODUCTION YEAR 1989
ENGINE 1.6I L/75 HP
SPECIAL CHARACTERISTICS 10 MILLIONTH KADETT BUILT 23.10.1989

MODEL KADETT E GSI, GROUP A RALLYE CAR
PRODUCTION YEAR 1989
ENGINE 2.0 L/16V 220 HP
SPECIAL CHARACTERISTICS WINNER, INTERNATIONAL GERMAN RALLYE CHAMPIONSHIP, 1989

MODEL KADETT C GTE, GROUP 1
PRODUCTION YEAR 1978
ENGINE 2.0 L/115 HP
SPECIAL CHARACTERISTICS 1000 SERIES

MODEL KADETT E SEDAN, IMPULS 1
PRODUCTION YEAR 1990
ENGINE 100V DIRECT-CURRENT MOTOR SHUNT WITH TWO NICD BATTERIES, 22 HP
SPECIAL CHARACTERISTICS ELECTRIC CAR STUDY

MODEL KADETT E GSI, GROUP A
PRODUCTION YEAR 1989
ENGINE 2.0 L/16V 267 HP
SPECIAL CHARACTERISTICS RACED IN THE GERMAN TOURING CAR CHAMPIONSHIP (DTM)

MODEL KADETT D 3-DOOR SEDAN
PRODUCTION YEAR 1982
ENGINE 1.3 L/60 HP

MODEL KADETT E GSI
PRODUCTION YEAR 1989
ENGINE 2.0 L/16V, 210 HP
SPECIAL CHARACTERISTICS RALLYE CAR DRIVEN BY SEPP HAIDER

MODEL KADETT E CONVERTIBLE "EDITION"
PRODUCTION YEAR 1991
ENGINE 2.0 L/115 HP

MODEL KADETT D 5-DOOR SEDAN
PRODUCTION YEAR 1979
ENGINE 1.2 L/53 HP

MODEL KADETT E GSI
PRODUCTION YEAR 1989
ENGINE 2.0 L/16V, 180 HP
SPECIAL CHARACTERISTICS RALLYE CAR DRIVEN BY SEPP HAIDER

MODEL KADETT E GSI CHAMPION
PRODUCTION YEAR 1991
ENGINE 2.0I L/115 HP
SPECIAL CHARACTERISTICS OWNED BY FORMER GERMAN CHANCELLOR HELMUT SCHMIDT

MODEL KADETT D CARAVAN STATION WAGON
PRODUCTION YEAR 1981
ENGINE 1.3 L/60 HP
SPECIAL CHARACTERISTICS ADAC "YELLOW ANGEL" SERVICE CAR

MODEL KADETT E RALLYE 4X4 "BASTOS"
PRODUCTION YEAR 1986
ENGINE 2.4 L/16V 255 HP
SPECIAL CHARACTERISTICS THIS MODEL PREMIERED AT THE PARIS–DAKAR RALLYE

MODEL ASTRA F CARAVAN IMPULS 3
PRODUCTION YEAR 1997
ENGINE ELECTRIC, THREE-PHASE ASYNCHRONOUS MOTOR, 55 HP

MODEL ASTRA G V8 COUPÉ
PRODUCTION YEAR 2003
ENGINE 4.0 L/470 HP
SPECIAL CHARACTERISTICS DTM CAR DRIVEN BY HEINZ HARALD FRENTZEN

MODEL KADETT E CAR. GL "PANAMERICANA"
PRODUCTION YEAR 1986
ENGINE 1.6 D L/54 HP
SPECIAL CHARACTERISTICS TOURED FROM ALASKA TO TIERRA DEL FUEGO

MODEL ASTRA F CONVERTIBLE
PRODUCTION YEAR 1994
ENGINE 1.8 L ECOTEC/115 HP

MODEL ASTRA G GROUP N
PRODUCTION YEAR 1998
ENGINE 2.0 L 16V ECOTEC/170 HP
SPECIAL CHARACTERISTICS CAR FROM THE GERMAN TV SERIES "GAS IN BLOOD"

MODEL ASTRA F CARAVAN "DREAM"
PRODUCTION YEAR 1998
ENGINE 1.6 L ECOTEC/100 HP

MODEL ASTRA F "MOTION" 3-DOOR
PRODUCTION YEAR 1997
ENGINE 2.0 L 16V/136 HP

MODEL ASTRA G COUPÉ "SILVERSTONE"
PRODUCTION YEAR 2005
ENGINE 2.2 L ECOTEC/147 HP

MODEL ASTRA F 5-DOOR SEDAN
PRODUCTION YEAR 1991
ENGINE 1.6I L/75 HP
SPECIAL CHARACTERISTICS FIRST ASTRA BUILT IN EISENACH, 23.09.1991

MODEL ASTRA G 5-DOOR CARAVAN "TNG"
PRODUCTION YEAR 2002
ENGINE 1.6 L CNG + TURBO-CHARGER/180 HP
SPECIAL CHARACTERISTICS TURBO NATURAL GAS STUDY

MODEL ASTRA G OPC 5-DOOR CARAVAN
PRODUCTION YEAR 2004
ENGINE 2.0 L TURBO ECOTEC/200 HP

MODEL ASTRA F CARAVAN IMPULS 2
PRODUCTION YEAR 1992
ENGINE ELECTRIC, 2 THREE-PHASE ASYNCHRONOUS MOTORS, 115 HP

MODEL ASTRA G ECO 4, 3-DOOR SEDAN
PRODUCTION YEAR 2004
ENGINE 1.7 L DTI ECOTEC/75 HP
SPECIAL CHARACTERISTICS AV. FUEL CONSUMPTION 4.4 L/100 KM

MODEL ASTRA H GTC GENÈVE CONCEPT
PRODUCTION YEAR 2003
SPECIAL CHARACTERISTICS DESIGN STUDY

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