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MARKET

The all-new Astra GTC replaces the successful Astra Sports Hatch, and will lay down the gauntlet to VW's Scirocco and Renault's Megane Coupe when it appears in showrooms at the end of November 2011 with a heady mix of dynamic excellence, dramatic design and competitive pricing.

Closely based on last year's stunning GTC Paris concept, the Astra GTC enters the UK market – the biggest in Europe for this model – priced from just £18,495, nearly £1,350 less than the basic VW Scirocco. But even in entry-level trim, the Astra GTC adopts the sophisticated HiPerStrut front suspension derived from the Insignia VXR, offering precision handling and unmatched stability.

The third body style to come off the Astra's Delta platform (following the Hatch and last year's Sports Tourer), the only exterior design elements the GTC shares with its siblings are door handles and the roof aerial – even the wheelbase and tracks are different. Brit, Mark Adams, Vauxhall's Vice President of Design, has aimed to create a car that looks like it's been plucked from the class above, with its low, wide stance and simple, yet rakish lines.

UK Coupe market & rivals

Vauxhall's current Astra has already laid down successful foundations on which the GTC can thrive. In 2010, it was the UK's second best-selling car overall, as well as the best-seller in its segment, with sales of 79,330, beating both the Focus (76,892) and the Golf (62,912).

The Astra's lower medium segment is the second largest in the UK, accounting for 20.9 per cent of the total new car market, and coupe and three-door hatch sales make up 11.7 per cent of this segment (figures based on YTD April '11).

And in previous years, the Astra Sport Hatch – GTC's predecessor – dominated this class. In 2007 and 2008 it out-sold its nearest competitor by three-to-one, and up until last year was still the clear leader with total registrations of 11,451 in 2010 (Scirocco was 2nd, Audi A3 3rd, Megane Coupe 4th).

Overall in this segment, fleet and retail sales are split evenly at around 50:50 per cent and the GTC is expected to account for around 20 per of all Astra sales, much like its predecessor.

Naturally, the three key rivals Vauxhall identifies for the GTC reflect the main players in the current market: Volkswagen Scirocco, Renault Megane Coupe and the Audi A3 3-door. However, given the GTC's premium design and sophisticated underpinnings, Vauxhall also expects the BMW 1-Series to be potential competition.

Vauxhall's traditional rival, Ford, has already announced that there will be no three-door Focus, giving the GTC a real advantage in this arena.



DESIGN

Exterior

Since the Astra GTC shares no body panels with either the Astra Hatch or Sports Tourer, it has a unique appearance in the range, and one which has largely stayed faithful to last year's stunning GTC Paris concept.

"We wanted the Astra GTC to be the ultimate expression of Vauxhall's design language, and to embody our passion for the motor car," said Mark Adams, Vice President of Vauxhall/Opel design. "But we didn't want emotion to get in the way of functionality: the Astra GTC still needed to be clever, practical and affordable."

In profile, Mark and his team – a significant number of whom are fellow Brits – created tension in the GTC's shape by minimising the lines running along the body. Vauxhall's signature 'blade', a crisp line that sweeps up from the rocker at the front of the door, is now similar to the Insignia's, but runs the opposite way to other Astras. A second line strikes through the door handle, stretching to the rear, while a third line follows the roof's profile, guiding the eye to the sharply integrated spoiler.

At the front of the car, a centreline crease is complemented by slim, 'eagle-eye'-style headlamps featuring wing-shaped daytime running light graphics. A chrome emblem bar running across the dramatic trapezoidal grille – mounted lower than on other Astras – completes the picture from the front.

Equally dramatic is the GTC's rear treatment. Its powerful shoulder section gives the car imposing proportions and a purposeful road presence. The line from the C-pillar wraps around the tail and the rear spoiler, which in turn integrates with the roofline. LED rear lighting – optional across the GTC range – highlights the stretched 'wing' motif created by the tail lamps.

The GTC has a Cd figure of just 0.33.

Standard on both Sport and SRi trims are 18-inch alloy wheels, with each getting a unique design. For the first time on a Vauxhall coupe in this class, 20-inch rims are available as an option on SRi models, with 19-inch wheels a further cost option on both trims.

On the upper-spec SRi model, tinted glass is standard, while the latest generation AFL (Adaptive Forward Lighting) is optional across the GTC range.

Interior

Despite the GTC's rakish exterior appearance, unlike many of its competitors, interior accommodation and functionality have not been compromised.



Not only can the GTC accommodate five adults, but its luggage compartment provides between 380 and 1165 litres of volume – over 200 litres more than some of the competition.

In line with the current Astra, storage volume in the cabin has also been improved by 50 per cent versus the old Sport Hatch, with items like the electronic park brake liberating space around the console in SRi models.

High quality materials feature in all GTCs, as do chrome-edged instruments in deep-set binnacles that give drivers clear and well laid-out information. Standard on all GTCs are DAB stereo and USB functionality, while SRi drivers get an onboard computer and leather-rimmed steering wheel, among many other standard items.

Two new colours – Seashell and Flaming Yellow - and a selection of new materials, bespoke to the GTC, set the car apart from others in the Astra range. Morello Red, and a new premium leather trim, is also available as an option and brings with it a six-way adjustable driver's seat.



CHASSIS

The GTC's appeal runs far deeper than its rakish lines. Unlike many three-door versions of existing compact hatches, the GTC – like the Astra Sports Hatch before it – will be a standalone model in Vauxhall's range, conceived to resonate with a more driver-oriented customer base who value the way a car handles and performs as much as the way it looks.

To do this, engineers from both Vauxhall Engineering Centre at Millbrook and Opel in Rüsselsheim have developed a bespoke platform for the GTC. Key components – such as the HiPerStruts used on the front axle – have been derived from the 325PS Insignia VXR, while significant upgrades have been made to the GTC's unique Watt's link/compound crank rear end. So while the GTC line-up currently includes a broad range of engines producing from 120 to 180PS, drivers can always be assured of class-leading levels of dynamic control.

But the best chassis can only be honed through intense testing on the most demanding surfaces. Britain will be by far the biggest market for the GTC, which is why Vauxhall and Opel engineers have conducted much of their evaluation on UK roads, with their unique (and some may say diabolical) blend of undulations, cambers, rough surfaces, blind apexes and crests. The theory is this: if the GTC can work well in the UK, it will work much more effectively on other markets' roads, too.

High tech front suspension boosts GTC's appeal

From the start of the GTC's development programme the target was to deliver a driver-oriented feel to the car, and one that worked well on UK roads. "Our aim was to exceed the best in class with the GTC's dynamics," said Gerry Baker, Vauxhall Engineering Centre's chief dynamicist. "We also wanted to change the emphasis in steering and damper-feel from the regular Astra Hatch to a set-up that was more focused, yet still comfortable enough for British roads and drivers."

Much of the development centered around the introduction to the GTC of Vauxhall's HiPerStrut, a first for an Astra model. Based on the system currently seen on the 325PS Insignia VXR, the HiPerStrut uses the Astra's existing pick-up points, but reduces the kingpin inclination angle by 44 per cent and shortens the spindle length (kingpin offset) by 46 per cent versus the MacPherson strut-equipped models. This helps prevent torquesteer – a trait of many powerful front-wheel-drive cars – allowing drivers to make more use of the GTC's performance without the steering being corrupted.

Adding the HiPerStrut has also reduced the amount of camber change on the GTC's front wheels during cornering, improving grip. Steering feel is enhanced, too, helped by a reduction in the steering system's friction levels. The geometry changes brought by the HiPerStruts also mean that the GTC can be fitted with wheels of up to 20-inches in diameter.



“The current Astra Hatch has always handled exceptionally well,” said Michael Harder, Vehicle Dynamics Supervisor at Opel. “But with the GTC, we’ve raised the bar still further. Drivers will instantly appreciate the extra level of involvement – and grip – allowing them to exploit the potential of the basic Astra platform still further.”

Rear suspension revisions complement GTC’s ride-height & track changes

Compared with the Astra Hatch, the GTC’s ride height has been lowered by 15mm, while the wheelbase has grown by 10mm, from 2685mm to 2695mm. Both tracks are wider, too, at 1584mm (+40mm) front and 1585mm (+30mm) rear.

The Astra’s GTC compound crank/Watt’s link rear suspension system has also been revised, with bespoke roll-stiffness and roll-centre height settings for this application. The system has many advantages over a modern multi-link design, including improved packaging, greater wheel camber stiffness and reduced suspension friction. The Watt’s link also ensures that lateral stability is maintained at all times.

The Watt’s link is carried on a small cross-member attached to the underside of the car, just behind the rear wheel centre line. It comprises a short, pivoting centre link with a ball joint at each end, to which the lateral links from the wheels are bolted.

In a straight line, the set up ensures excellent stability, but during cornering it minimises lateral deflection in the same way a modern multi-link system would do. Vauxhall’s engineers estimate that the linkage absorbs around 80 per cent of all lateral loadings on the rear suspension. In addition, the Watt’s link allows for softer bushings, which no longer have to compensate for toe changes at the rear of the car, and thus provide greater compliance and ride comfort from the rear axle.

Unique steering programme for UK drivers

Precision, Feedback & Confidence. These were the three target elements for the GTC’s UK-specific steering programme. The challenge was to maintain the system’s ease of use at lower speeds, but dial in a greater degree of involvement and slightly more effort at higher speeds.

The Astra GTC uses a rack and pinion steering system with speed sensitive assistance. But in order to provide drivers with more steering feedback, the system’s electric motor is mounted directly on the steering rack, as opposed to the base of the steering column.

The key benefits of using an electric power steering (EPS) are well known. At low speeds, the level of power assistance is increased to minimise steering effort. At higher speeds, assistance is automatically reduced to ensure a high degree of steering feel for the driver. The second important benefit is that, because it does not require an energy consuming hydraulic pump and responds directly to the amount of power needed at any speed, fuel consumption is also reduced.



FlexRide enhances GTC's driver appeal still further

FlexRide, Vauxhall's adaptive damping system, will be available as a £790 option across the GTC range, complementing the significant revisions to the new model's chassis. FlexRide automatically adapts to prevailing road surfaces and driving styles, providing drivers with fully optimised handling, even in the event of an emergency situation.

At the heart of FlexRide is the Driving Mode Control (DMC) which oversees and executes the system's settings, allowing the car to react to sudden changes in driving style or emergency situations. For example, if the driver needs to avoid an obstacle while in 'Tour' mode – the softest of the three settings – chassis sensors convey this to the DMC and the dampers are adjusted in a split second.

Standard mode (the default setting) reacts in the same way as Tour, but when drivers select Sport they not only get stiffer dampers, but more steering effort, sharper throttle response and an instrument panel that's back-lit in red, rather than white. Each of these settings can be dialled in or out of Sport mode via the GTC's configurator.

British roads: the ultimate challenge for dynamicists!

Vauxhall and Opel engineers are making increasing use of British roads as a key part of their overall chassis development programmes. In the last three years, the Insignia, Astra, Astra Sports Tourer, Meriva, and now the Astra GTC, have all benefited from the UK's unique mix of road surfaces.

So what makes our roads so bad, but so good for chassis engineers?

"Our road system is like no other in Europe," said Gerry Baker. "We obviously test cars in many different countries, but the UK's severely undulating and heavily cambered roads often reveal handling traits that would otherwise be hidden on smoother surfaced and more predictable continental roads.

"It's not just the surfaces, either. Corners with changing radii are commonplace in the UK, as are blind apexes and crests, which mean that extra demands are put upon our cars and drivers. A good example is a driver who has to make a mid-corner adjustment on an unfamiliar road where the bend tightens unexpectedly and he throttles-off or brakes suddenly. The car needs to work with him, and respond intuitively to steering inputs, but it still needs to be rewarding to drive under normal conditions."

Recognising that British drivers don't always have access to winding, smooth-surfaced roads, the GTC has also been tuned to deal with the worst rutted and broken surfaces, even when equipped with its optional 19- and 20-inch wheels (18-inch wheels are standard).



POWERTRAINS

Petrol engines

1.4-litre Turbo

Strong performance and flexibility are the core strengths of this engine, which is available with either 120PS or 140PS power outputs. Torque generation is even more impressive, with 200Nm available in both engines from just 1,850rpm to 4,900rpm, translating to a 0-60mph acceleration time of 9.0 seconds (140PS) or 10.2 seconds (120PS).

The water-cooled turbocharger, spinning at up to 200,000 rpm, is integrated into the exhaust manifold, close to the engine, for a fast throttle response. Air-to-air intercooling increases the intake charge density.

The adoption of a steel crankshaft with reinforced pistons and con-rods allows the use of a relatively high 9.5: 1 compression ratio, despite higher stresses and loads. Under-skirt piston oil cooling jets and exhaust valves filled with sodium are further measures to ensure durability under higher internal temperatures.

All 1.4 Turbo models come equipped as standard with Start/Stop, helping them achieve competitively low emissions of between 140-142g/km, depending upon wheels/tyres fitted.

1.6-litre Turbo

The most powerful engine in the GTC's line-up produces 180PS and achieves a specific output of just over 100PS per litre. Available across the range, the 1.6 Turbo is the most powerful series production engine in its displacement class.

Its high power is matched by an impressively wide plateau of torque, with 230Nm available from 2,200rpm to 5,400rpm. With this engine, the GTC can accelerate from 0-60mph in 7.8 seconds, and on to a top speed of 137mph.

The 1.6T's cylinder barrels are laser-etched for minimal piston friction. To withstand higher operating temperatures, the exhaust valves are filled with sodium and under-skirt piston cooling with oil jets is used. A map-based thermostat control raises the coolant temperature at low engine speeds, or under light loads, to help reduce internal lubricant friction and improve fuel consumption.

Diesel engines

All GTC diesel engines are fitted with:

- 16-valve, dual overhead camshafts



- A weight-saving aluminum cylinder head
- Threaded intake ports for exceptional 'swirl' and burn characteristics
- Oil jet cooled pistons
- A dual-mass flywheel and a maintenance-free exhaust particulate filter.

The main technical features include:

Common Rail, Multiple Fuel Injection

Operating at high pressures up to 1,800 bar, this sophisticated fuel delivery system ensures extremely fine atomisation in the combustion chamber and enables up to five injection pulses per cycle to extract as much energy as possible from a given amount of fuel. The result is exceptionally low fuel consumption and exhaust emissions, as well as reduced engine noise. Multiple injection helps iron out the strong vibrations associated with compression ignition. For example, a pre-injection during the warm-up period reduces cold-start 'knock' to a barely perceptible level.

Variable Geometry Turbocharger (VGT)

The pitch of the vanes on the turbine wheel is continuously varied according to engine load and speed, giving an excellent throttle response, particularly during pick up from low speeds.

Improved Exhaust Gas Recirculation (EGR)

The electronically-controlled EGR system has an additional cooling function. Electro-pneumatically operated bypass flaps, controlled by the engine management system, ensure that the exhaust gas reaches a temperature suitable for combustion on its way back into the cylinder. This contributes to increased power, as well as reduced emissions.

The diesel line-up comprises:

1.7 CDTi

Available in two states of tune, providing either 110PS and 280Nm of torque, or 130PS and 300Nm. Combined cycle fuel consumption for both is 62.8mpg with standard wheel rims fitted, and each achieves 119g/km. Despite being the most frugal models in the range, the 1.7 CDTis allow the GTC to accelerate to 60mph in either 10.0 (130PS) or 11.0 seconds (110PS). In 2012, an ecoFLEX model using a version of this engine will be available in the UK with emissions of just 109g/km. Start/Stop is fitted to all 1.7 CDTi models as standard.

2.0 CDTi

The 2.0 CDTi packs 165PS with an exceptionally strong 350Nm of torque from just 1,750rpm. This helps it achieve a 0-60mph time of just 8.4 seconds and 50-70mph in 6.4 seconds, together



with a combined fuel consumption of 58.9mpg and emissions of just 127g/km (18 & 19-inch wheels fitted). Vauxhall's Start/Stop system is fitted to all 2.0 CDTi models as standard.

Hydraulically-damped mountings for improved NVH performance

All powertrains are bolted in position via hydraulically-damped mountings that minimise vibration through the body structure. Adaptor plates enable the same four fixing points to be used for all applications, two on the front sub-frame and one on each longitudinal beam. The fuel supply system uses an electric pump and filter mounted in the 56-litre fuel tank, which is located low under the rear seat for optimal weight distribution and crash impact protection.

Start/Stop reduces emissions, improves urban fuel consumption

Vauxhall's Start/Stop technology, which is available on all 1.4 Turbo, 1.7 CDTi and 2.0 CDTi engines, is highly efficient and helps to reduce emissions. As soon as the driver selects neutral, the Start/Stop system is activated and the engine unit cuts out automatically. The rev counter needle then assumes the Autostop position. When the driver wants the engine to start up again, he/she just selects first gear and departs. A powerful battery ensures that there is no delay in the engine starting up again.

For safety reasons and to ensure the comfort of passengers, the temperature and pressure functions of the brake power assist unit remain active during the Auto-Stop phase of the Start/Stop system. When necessary, for example during slow city traffic, the driver can manually de-activate the system, using the "eco" switch.

Transmission

Six-speed manual gearboxes, offering a wide spread of ratios and a tall, fuel-saving top gear, are standard fit across the entire range. All gearboxes include triple cone synchronization on first and second gears for easy engagement, and a synchronized reverse gear.

A six-speed automatic gearbox is also available on 1.4 Turbo 140PS and 2.0 CDTi 165PS engines.



KEY STANDARD & OPTIONAL EQUIPMENT

Safety

The Astra GTC is available with a variety of advanced electronic options and proven safety features, like front, side and curtain airbags and a reinforced passenger safety cell with pre-defined deformation zones.

Standard on all GTCs are active safety head restraints, and on SRi models, Hill Start Assist, which helps prevent you rolling back on a slope by keeping the car's brakes applied until just the right moment. Dual front seatbelt pre-tensioners and a pedal release system are standard on all GTCs.

Key options in the range are Adaptive Forward Lighting (AFL) and front and rear parking distance sensors.

Adaptive Forward Lighting

AFL is optional across the GTC range at a cost of £790, and incorporates dark-style bi-xenon lights, LED daytime running lights and high-pressure headlamp washers. It offers drivers eight unique light settings which are selected automatically depending on road and weather conditions:

Static Cornering: Throws light 90 degrees left or right for enhanced lateral vision

Dynamic Curve Light: Activated by steering angle and speed, allowing lights to swivel by up to 15 degrees

High Beam Assist: Automatically dips or raises headlight beam according to presence of oncoming traffic

Adverse Weather Light: Wiper or rain sensor activated for better vision in bad weather conditions.

Motorway Light: 140-metre range, higher and brighter than normal low beam

Country Road Light: Wider spread and brighter light than normal low beam, with 70-metre range

Town Light: Activated by road speed and street lighting, this has a lower and wider spread of light

Pedestrian Area Light: Wider spread of light by up to eight degrees to left and right.



Braking & Stability

All Astra GTCs are fitted with the following as standard, except where shown:

- Anti-lock Braking System
- Electronic Brakeforce Distribution
- Hydraulic Brake Fade Assist
- Cornering Brake Control
- Emergency Brake Assist
- Electronic Park Brake with Hill Start Assist (only standard on SRi models)

Comfort

CD400: Standard across the range, the CD400 is has exceptional in-class functionality and performance. Highlights include CD/MP3 CD player, AM/FM stereo radio with 36 pre-sets, USB and aux-in socket, seven speakers, DAB and 4 x 20W output. The CD400 can be specified with Bluetooth function for an extra £220.

Navi 600 satellite navigation/CD player: An £855 option across the GTC range, this system has a seven-inch colour display and SD card-based memory. Navigation data and points of interest can be stored in the SD card, enabling high-speed access, while allowing universal networking with mobile devices and digital data media. The system can now also select the most economical route to a destination, in addition to the fastest and shortest routes.

Infinity Premium Sound System: A £525 option across the range, the Infiniti PSS has a total of 315W, seven premium speakers and an 8-inch subwoofer. The Infiniti system digitises the audio signal so it can be fine-tuned with Digital Sound Processing for accurate sound response.

Mobile phone portals: All GTCs are available with a choice of either a standard Bluetooth system (£220) that can be controlled via the steering wheel buttons or voice activation, or a fully embedded system (£420). The embedded option uses a Bluetooth connection to copy the content of the mobile phone's SIM, such as the contacts and caller lists, to the internal flash-drive. This effectively transfers much of the phone's capability to the car.

Driver's Ergonomic Sports Seat/Adjustable seat cushion extension: The GTC's optional driver's Ergonomic Sports Seat come as part of a £1050 package that includes leather seat facings, heated front seats, each of which is fitted with an extendable cushion. The orthopaedic ergonomic six-way adjustable sports driver's seat adjusts to suit your posture, while also offering tilt adjustment and electric lumbar support.



RANGE & PRICING

The GTC range is available in two trims, Sport and SRi, both of which are available with the full range of engines highlighted in the 'Powertrains' section.

GTCs start at £18,495 for the 1.4 Turbo 120PS Sport model, which includes the following standard features:

- Electronic Stability Programme (ESP)
- Six airbags
- Active-safety front head restraints
- Daytime running lights
- 18-inch seven-spoke alloy wheels
- Air conditioning
- CD400 CD/MP3 CD player with stereo radio
- DAB
- USB connection with iPod control
- Aux-in
- Electric front windows
- Cruise control
- Remote control central deadlocking
- Steering column adjustable for reach/rake
- Steering wheel-mounted audio controls
- Front seat height adjusters
- Remote control alarm system
- HiPerStrut front suspension

Moving further up the Sport range, the 1.6 Turbo 180PS costs £20,215, while the entry-level 1.7 CDTi 110PS diesel is £20,060. The 2.0 CDTi 165PS tops the Sport range at £21,165

In addition to the generous standard kit offered by the Sport, top-spec SRi models offer the following features over and above Sport models:

- Sports front seats
- Rain-sensitive windscreen wipers
- Automatic lighting control
- Front fog lights
- Multi-function trip computer
- Electric parking brake
- Hill start assist
- Front centre armrest with storage facility
- Three-spoke, leather-covered steering wheel
- Front door sill covers



- Dark-tinted rear windows

The SRi range starts at £19,945 for the 1.4 Turbo 120PS, and rises to £21,480 for the most powerful engine in the range, the 1.6 Turbo 180PS. SRi diesels start at £21,330 for the 1.7 CDTi 110PS and finish with the GTC range-topper, the 2.0 CDTi 165PS at £22,430.

Effective 3 October 2011

Astra GTC prices

Model	Price (£)	VAT (£)	Total (£)	On-the-road RRP (£)	CO ₂ (g/km)
SPORT					
1.4i 16v VVT Turbo (120PS) Start/Stop	14687.50	2937.50	17625.00	18495.00	140
1.4i 16v VVT Turbo (140PS) Start/Stop	15175.00	3035.00	18210.00	19080.00	140
1.6i 16v Turbo	15995.83	3199.17	19195.00	20215.00	168
<i>Diesel</i>					
1.7CDTi 16v (110PS) Start/Stop	16087.50	3217.50	19305.00	20060.00	119
1.7CDTi 16v (130PS) Start/Stop	16587.50	3317.50	19905.00	20660.00	119
2.0CDTi 16v Start/Stop	17008.33	3401.67	20410.00	21165.00	127
SRi					
1.4i 16v VVT Turbo (120PS) Start/Stop	15895.83	3179.17	19075.00	19945.00	140
1.4i 16v VVT Turbo (140PS) Start/Stop	16229.17	3245.83	19475.00	20345.00	140
1.6i 16v Turbo	17050.00	3410.00	20460.00	21480.00	168
<i>Diesel</i>					
1.7CDTi 16v (110PS) Start/Stop	17145.83	3429.17	20575.00	21330.00	119
1.7CDTi 16v (130PS) Start/Stop	17645.83	3529.17	21175.00	21930.00	119
2.0CDTi 16v Start/Stop	18062.50	3612.50	21675.00	22430.00	127

Please note: On-the-road recommended retail prices (RRP) include number plates and delivery to retailer of £700.00 (inc. £116.67 VAT), 12 months' Vehicle Excise Duty and new vehicle first registration fee of £55.00. Excludes fuel and insurance.



Effective 3 October 2011

Astra GTC options

	Sport	SRI	Price (£) exc. VAT	Total (£) inc. VAT
OPTION PACKS				
Sight and Light Pack • Automatic lighting control with tunnel detection • Rain-sensitive windscreen wipers • Electro-chromatic anti-dazzle rear-view mirror • Digital high beam assist	○	●	191.67	230.00
Leather Pack • Leather seat facings • Electrically heated front seats • Driver's ergonomic sports front seat • Front passenger's extendable seat cushion	○	○	875.00	1050.00
Seat Comfort Pack One • Driver's seat with six-way manual adjustment and four-way electrical lumbar adjustment	○	○	141.67	170.00
Seat Comfort Pack Two ¹ • Driver's and front passenger's seats with six-way manual adjustment and four-way electrical lumbar adjustment	○	○	266.67	320.00
Premium Forward Lighting Pack • Intelligent Adaptive Forward Lighting (AFL) incorporating dark-style bi-xenon headlights with dynamic beam levelling • LED daytime running lights • High-pressure headlight washers	○	○	658.33	790.00
VXR Styling Pack • Body-colour front lower spoiler, side sills, rear lower skirt and rear roof spoiler	○	○	666.67	800.00
VXR Styling Interior Pack • Three-spoke leather-covered sports steering wheel • Leather-covered gear knob • Sports pedals • Dark headlining	○	○ ²	312.50	375.00
Towing Pack • Detachable tow bar • Trailer stability programme	○	○	291.67	350.00
CHASSIS TECHNOLOGY OPTION				
FlexRide adaptive chassis control system with Continuous Damper Control (CDC)	○	○	658.33	790.00
INTERIOR OPTION				
Dual-zone Electronic Climate Control (ECC) incorporating air conditioning with humidity sensor	○	○	254.17	305.00
EXTERIOR AND CONVENIENCE OPTIONS				
Front and rear parking distance sensors	○	○	320.83	385.00
Tyre pressure monitoring system	○	○	91.67	110.00
Electrically foldable door mirrors	○	○	145.83	175.00
Dark-tinted rear windows	○	●	220.83	265.00
LED rear lights	○	○	95.83	115.00
Body-colour rear roof spoiler	○	○	333.33	400.00
Remote control ultrasonic security alarm system	○ ³	●	204.17	245.00
19-inch five-spoke alloy wheels	○	○	470.83	565.00
20-inch five-spoke alloy wheels ⁴	○	○	833.33	1000.00
Space-saver spare wheel (in lieu of emergency tyre inflation kit)	○	○	70.83	85.00
Brilliant paint	○	○	83.33	100.00
Two-coat metallic or pearlescent paint	○	○	412.50	495.00
AUDIO AND COMMUNICATION OPTIONS				
Navi 600 • Satellite navigation system • CD/MP3 CD player • SD card slot • Aux-in • USB connection with iPod control • AM/FM stereo radio with 36 station presets • RDS with Traffic Programme • Remote colour monitor • 20 watts per channel output • 7 speakers • Shark fin aerial	○	○	712.50	855.00
Mobile phone system with Bluetooth® (does not include phone)	○	○	183.33	220.00
Embedded mobile phone system with Bluetooth® (does not include phone)	○	○	350.00	420.00
Infinity® Premium Sound System (adds Flex Floor luggage compartment)	○	○	437.50	525.00

○ = Optional at extra cost. ● = Standard equipment.

1 = Can be ordered separately. Includes content of Seat Comfort Pack One. 2 = Leather steering wheel and gear knob are standard. 3 = Optional on 1.4i 16v WVT Turbo (120PS), standard on all other Sport models. 4 = Due to increased CO₂ emissions, there will be a €15 increase in Vehicle Excise Duty payable on 1.4i 16v WVT Turbo (120/140PS) models.

Warranty

The GTC range benefits from Vauxhall Lifetime Warranty, which is available to all first owners of Vauxhall passenger cars and lasts the lifetime of the car, up to a maximum 100,000 miles.

The warranty also includes Vauxhall Assistance for 12 months from first registration, and six years body panel anti-perforation cover.

Servicing

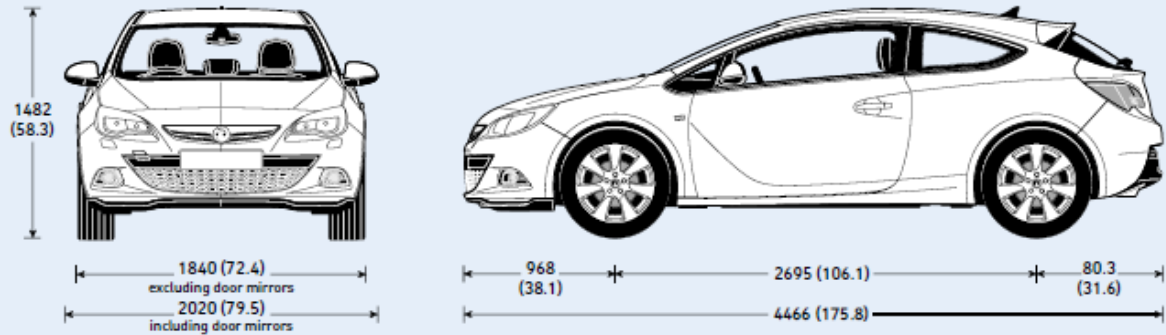
All Astra GTCs are subject to a 20,000 mile or one year service interval, whichever occurs sooner.



TECHNICAL DATA

Vauxhall Astra GTC: Technical Data Overview

Exterior dimensions millimetres (inches)



Petrol engines		1.4 Turbo	1.4 Turbo	1.6 Turbo
Emission classification		Euro 5	Euro 5	Euro 5
Fuel		95RON	95RON	95RON
Number of cylinders		4	4	4
Displacement	in cm ³	1364	1364	1598
Max. output	in PS	120	140	180
	at rpm	4200-6000	4900-6000	5500
Max. torque (overboost)	in Nm	200	200	230
	at rpm	1850-4200	1850-4900	2200-5400
Fuel tank capacity	in l	56	56	56
Transmission				
6-speed manual		●	●	●
6-speed automatic		●	-	-
Trailer load in kg				
Unbraked		730	730	730
Braked at 12% gradient		1100	1300	1500
BIK company car tax		18%	18%	23%

● = standard, ○ = optional, - = not available



Diesel engines		1.7 CDTi	1.7 CDTi	2.0 CDTi
Emission classification		Euro 5	Euro 5	Euro 5
Fuel		Diesel	Diesel	Diesel
Number of cylinders		4	4	4
Displacement	in cm ³	1686	1686	1956
Max. output	in PS	110	130	165
	at rpm	4000	4000	4000
Max. torque (overboost)	in Nm	280	300	350
	at rpm	1750-2500	2000-2500	1750-2500
Fuel tank capacity	in l	56	56	56

Transmission		1.7 CDTi	1.7 CDTi	2.0 CDTi
6-speed manual		●	●	●
6-speed auto		-	-	●
Trailer load in kg				
Unbraked		730	730	730
Braked at 12% gradient		1300	1400	1500
BIK company car tax		13%	13%	18%

● = standard, ○ = optional, – = not available

Driving performance, fuel consumption and emissions						
	Driving performance		Fuel consumption mpg			CO ₂
	Maximum speed in mph	Acceleration from 0 – 60mph in secs	Urban	Extra-urban	Combined	CO ₂ emissions in g/km (combined)
6-speed manual						
1.4 Turbo (120PS) with Start/Stop	119	10.2	36.2	57.6	47.1	140
1.4 Turbo (140PS) with Start/Stop	125	9.0	36.2	57.6	47.1	140
1.4 Turbo (140PS) with Start/Stop Auto	125	9.9	31.0	51.4	41.5	159
1.6 Turbo (180PS)	137	7.8	30.4	47.9	39.2	168
1.7 CDTi (110PS)	113	11.0	53.3	70.6	62.8	119
1.7 CDTi (130PS)	122	10.0	53.3	70.6	62.8	119



2.0 CDTI (165PS) with Start/Stop	131	8.4	49.6	65.7	58.9	127
2.0 CDTI (165PS) with Start/Stop Auto	129	8.6	34.9	58.9	47.1	159

¹⁾ Fuel consumption (H-Gas) according to MVEG-B.

H-Gas: Values reflect test gas G20 following 1999/100/EC calculation method.

All data refer to the European base model with standard equipment. Fuel consumption data and CO₂ emissions data are determined according to regulation 2007/715/EC, taking into consideration the vehicle kerb weight, as stipulated by the regulation. Additional equipment can lead to slightly higher fuel consumption and therefore CO₂ exhaust emissions than the declared values. In addition, they can raise the vehicle's kerb weight and in some cases also increase the gross vehicle weight, the maximum allowable axle loads and respectively reduce the permitted trailer load. Therefore the maximum speed may be decreased while acceleration time can be increased. The published performance figures are possible with the vehicle's kerb weight excluding driver plus a 200 kilogram load allowance.

Dimensions and Weights	
Vehicle dimensions in mm	Astra GTC
Length	4466
Width including/excluding door mirrors	2020/1840
Height (at kerb weight)	1482
Wheelbase	2695
Track, front	1584
Track, rear	1588
Turning circle in m	
Wall-to-wall	11.4
Kerb-to-kerb	10.9
Luggage compartment dimensions in mm	
Floor length to rear seat backs	855
Width	886
Height of sill	793
Luggage compartment in litres according to ISO 3832	
Behind second row to glass line	380
Behind front seats to roof	1165
Weight and axle loads in kg	
Kerb weight incl. driver (according to 70/156/EEC)	From 1368 to 1495
Permissible gross vehicle weight	From 1960-2060
Permissible axle load, front	1075-1180
Permissible axle load, rear	930



HILLCLIMBING – A PROUD VAUXHALL TRADITION

It's no mere coincidence that Vauxhall has organised the MSA GTC Media Hillclimb Challenge to launch its all new Astra GTC to journalists. The UK's oldest surviving car manufacturer, Vauxhall first competed in a hillclimb in 1903, its inaugural year, and during the next quarter-century laid down the gauntlet to the likes of Bugatti and Bentley on tracks and circuits in UK and Europe.

Shelsley Walsh, our main venue for the launch of the GTC, certainly played a lead role in that early sporting endeavour. First used in 1905 – the year Vauxhall moved to Luton – Shelsley is the oldest motorsport venue in continuous use in the world, with an even longer racing heritage than Le Mans, Indianapolis and Monza.

The firsts don't end there, either. Shelsley was also the first purpose-built motorsport venue in the world, the first to have electrical time-keeping and the first to feature an outside (radio) broadcast in 1932.

Operated by the Midlands Automobile Club, itself arguably the oldest car club in the world, the track is 1000 yards (914m) long, is up to 12 feet (3.66m) wide and rises 328 feet (100m) in height between the start and finish lines. Its steepest gradient is 1:6.24, and believe it or not, the current lap record stands at 22.58 seconds!

Vauxhall's early history is littered with references to Shelsley Walsh successes, with long-time MD, Percy Kidner, taking to the wheel of his cars on many occasions. And he wasn't alone; Vauxhall director and talented racer, A.J Hancock, also competed successfully at the track, and features in one of the most enduring images of the era, as he rounds a bend at Shelsley in a C10 'Prince Henry' with his mechanic hanging out the side of the car to aid weight distribution.

By 1913, driving a forerunner to the legendary 30/98, Vauxhall driver Joseph Higginson had shaved an incredible eight seconds off Shelsley's lap record set only two years before with a time of 55.2 seconds, illustrating how rapidly sports car engineering was progressing.

But perhaps the most radical pre-war Vauxhall was that driven by Raymond Mays in 1929. The Vauxhall Villiers Special had two pairs of rear wheels and produced 250bhp, enough to reduce Shelsley's record to just 45.6 seconds.

Luton Park, the first track in our GTC Media Hillclimb Challenge, is one of the longest hillclimbs in the UK at 1475 yards (1349m). First used in the mid-1950s, Luton is still rated as one of the most demanding tracks in the UK, and is operated by the Hagley & District Light Car Club.

The sinuous track runs through a picturesque deer park owned by Sir Michael Leighton and, perfectly illustrating its complexity, the current track record is 44.32 seconds – almost twice as much as Shelsley's.



HERITAGE CARS – FACTS & FIGURES

1911 C10 'Prince Henry'

Originally built to compete in the 1910 Prince Henry Trophy, a German trial designed to discover the world's best all-round touring car, the C10 3-litre Vauxhall has since been acknowledged as Britain's first true sports car. Laurence Pomeroy, Vauxhall's Chief Engineer, entered three C10s in the 1910 event, each with tuned versions of the company's 3054cc side-valve engine. The cars were driven by Vauxhall's MD, Percy Kidner, and co-directors, AJ Hancock and Rudolf Selz, all of whom finished the 1230-mile event, but alas without collecting any awards. However, due the cars' speed and durability, a legend had been created and later the same year a road version, known as the 'Prince Henry Type' was shown to the press. *The Autocar* noted that the new car was, '...a particularly fast, light car for road work', with Vauxhall guaranteeing that the Prince Henry could achieve 'more than 90mph' when fitted with a single seat body.

This 1911 car has been owned by Vauxhall Motors since 1946 and is thought to be a pre-production example, one of only nine surviving cars in the world. It is fitted with the earlier 3-litre, 60hp engine, a lightweight chassis and low front axle. EI 641 was originally registered in Sligo, Ireland.

Specification

Engine (1911 models):

4 cylinders in line, 3054cc
Integrally cast iron cylinder head and block
Side valves, side cam.

Transmission:

Rear wheel drive
Cone clutch (later models had multi-plate items)
4-speed gearbox

Chassis:

Semi elliptic leaf spring suspension front and rear
Brakes – footbrake on transmission, handlever on rear drums
Weight – 1542kgs

Performance (with 4-seater touring body):

Max speed – 65mph

Production (1910-1914):

58

Price (1911):

£495



1975 Firenza HP 'Droopsnoot'

In 1973, Vauxhall rationalised its Firenza range, and the HP (for 'High Performance') model was created. Based on the Magnum Coupe, the HP had additional aero appendages at the front, giving rise to the model's nick name: 'Droopsnoot'. In many ways, the model's launch was well timed, heralding Vauxhall's triumphant return to motorsport in the guise of DTV (Dealer Team Vauxhall). And the Droopsnoot certainly had the brawn to go with its distinctive looks. This was the first Vauxhall with a five-speed gearbox, and its 2.3-litre slant-four engine had hand-finished combustion chambers, inlet tracts and valve throats to liberate an extra 21bhp. As a result, the Droopsnoot became the first Vauxhall to crack 0-60mph in less than 10 seconds.

But industrial disputes, a looming fuel crisis and the consequent sales fall-out from the performance car market signed an early death-knell for the Firenza HP. Despite a brave sales projection of 1000 cars per year, only 204 cars were ever built.

The Vauxhall Heritage example was purchased three years ago, after which it underwent a ground-up restoration by staff at the centre.

Specification

Engine:

4 cylinders in line, inclined 45 degrees, 2279cc
131bhp @ 5500rpm
145lb ft @ 3500rpm
Single overhead cam
Aluminium cylinder head/Iron block

Transmission:

Rear wheel drive
ZF 5-speed gearbox

Chassis:

Independent front wishbone suspension, coil springs, anti-roll bar
Four-link, live-axle rear suspension
Front disc/rear drum brakes

Performance:

Max speed – 120mph
0-60mph – 9.4 seconds

Production (1973-75):

204

Price:

£2625



1990 Astra GTE Mk. 2

The most powerful Astra by the end of the Eighties was the 148bhp GTE, which made its debut in 1988. Its 16-valve engine featured state of the art internals and was considerably more advanced than any rival offering at the time. Although much of the standard Astra's platform was carried over into the new car, the smooth looks and neat interior made it one of the most contemporary designs on the market. The £7,344 GTE's power and sharp chassis also made it a favourite with the motorsport fraternity.

Specification

Engine:

4 cylinders in line, 1998cc
 148bhp @ 6000rpm
 146lb ft @ 4800rpm
 Double overhead cam

Transmission:

Front-wheel drive
 5-speed gearbox

Chassis:

Front- MacPherson strut, coil springs, anti-roll bar
 Rear – Torsion beam, trailing arms, coil springs
 Front disc/rear drum brakes

Performance:

Max speed – 128mph
 0-60mph – 8.5 seconds

Price (1985):

£7,344

Astra Coupe 888

The Vauxhall Heritage example is one of only 100 cars built by Triple Eight Engineering, the team responsible for building Vauxhall's British Touring Car Championship racers. The model, which was built to celebrate overall victory in the 2001 BTCC season, cost £20,995 when new and features a range of modifications and extras designed to sharpen the driving experience. Although the 2.0-litre turbo engine is unchanged, the Coupe 888 was fitted with Eibach springs and dampers and 17-inch OZ Racing alloy wheels. All dynamic development was carried out at Millbrook Proving Ground in Bedfordshire.

Specification

Engine:

4 cylinders in line, 1998cc
 188bhp @ 5400rpm
 184lb ft @ 1950rpm



Double overhead cam

Transmission:

Front-wheel drive

5-speed gearbox

Chassis:

Front- MacPherson strut, coil springs, anti-roll bar

Rear – Torsion beam, compound links, coil springs

Front disc/rear disc brakes

Performance:

Max speed – 136mph

0-60mph – 7.5 seconds

Price (1985):

£18,815

1981 Chevette HSR

The HSR Chevetttes were rear-wheel drive rally cars created to end Ford's dominance of the sport. Armed with 240PS slant-four motors, a top speed of 125mph and 2,279cc capacity, drivers like Pentti Airikkala, and Russell Brookes showed their potential in events like the 1000 Lakes, Swedish Rally and RAC Rally. The HSR Chevetttes had Lotus-designed heads and ZF gearboxes, setting them apart from their road-going HS-badged siblings.

Specification (road-going HS)

Engine:

4 cylinders in line, 2279cc

135bhp @ 6000rpm

134lb ft @ 4800rpm

Double overhead cam

Transmission:

Rear-wheel drive

5-speed gearbox

Chassis:

Front- Double wishbone, coil springs, anti-roll bar

Rear – Trailing arms, Panhard rod, torque tube, anti-roll bar

Front disc/rear drum brakes

Performance:

Max speed – 117mph

0-60mph – 8.8 seconds

Price (1985):

£5,107

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