





WIPERAMA

ALL-NEW HOLDEN CAMIRA

AUTOMOTIVE TECHNOLOGY IN ITS NEWEST MOST EFFICIENT FORM.

General Motors-Holden's is proud to present the Holden Camira.

A Supercar.

The most advanced 5-passenger Australian car ever. It fits perfectly between Holden Commodore and Holden Gemini.

Camira's super-efficiency is expressed in a lot of ways that really mean something:

▲ Totally new styling, aerodynamically designed to cheat the wind, and cut fuel costs ▲ Camtech 4 –

an all-new overhead camshaft 1.6 litre powerhouse which outperforms larger engines with 160 kmh (100 mph) performance ▲ 6.4 litres per 100 km (44 mpg) h'way economy – 4 speed, 6.2 litres per 100 km (45.6 mpg) h'way economy – 5 speed (Aust. Standard Test procedure 2077-1979)

▲ Transverse engine location gives you maximum legroom within compact overall dimensions

▲ A superboot – 14% bigger than the roomiest of comparable cars ▲ Front wheel drive for tenacious roadholding.

▲ Super-quietness – Camira is measurably quieter than any car in its class ▲ Variable ratio rack and pinion steering – an all-new world-patented Australian design that gives you much lighter parking steering ▲ All-round coil spring suspension with a compound crank torsion beam rear axle that gives you the feeling the whole car is independently sprung ▲ Ride and super-precise handling which gives the owners of exotic European sports sedans a big surprise.

Holden Camira driving excitement comes in your choice of SL, SL/X and luxurious SL/E models, with

either 4-speed manual transmission (SL, SL/X), 5-speed (SL/E) or a completely new optional 3-speed auto.

Is Camira reliable? Two years of testing around Australia and at GMH's Victorian Proving Ground have made it the most durable car of its size in the world.

World Technology.

Holden Camira had its beginnings in a World Car concept – a single, brilliant basic design by the most experienced and talented General Motors Engineers of six countries: Australia, Germany,

the U.S., Japan, South Africa and Brazil.

Into the car would be poured the most advanced engineering and design technology available. What was not available had to be created.

And not simply engineering and design technology. Manufacturing technology would be freely exchanged and, ultimately, car components.

Developed for Australia.

General Motors-Holden's Engineers took the basic World Car concept, and developed it for the most

demanding country of all, Australia. And so, three years later, the Holden Camira was born.

For GMH, it is a completely new kind of vehicle – an intermediate-size between Holden Gemini and Holden Commodore, with a transversely mounted engine and front wheel drive.

The suspension and steering systems, too, are different from anything previously seen on Holdens.

The final result is that Camira looks different from its German, American, British, Japanese and Brazilian

cousins, and in significant ways is mechanically and structurally different.

Because of the special needs of Australia the body is considerably stronger, the whole suspension system is stronger, the engine cooling system is more efficient, the engine itself has entirely different ignition and emission control systems, the steering is a unique Australian design, the interior is completely designed in Australia, the heater-

demister and the optional air-conditioning system are also designed specifically for this country, by Australian Engineers.

Therefore, while Camira has International origins, it is uniquely Australian.

And it is something else: a prime example of the Holden team's commitment to bring you the very best that the constantly advancing world of automotive technology can offer.

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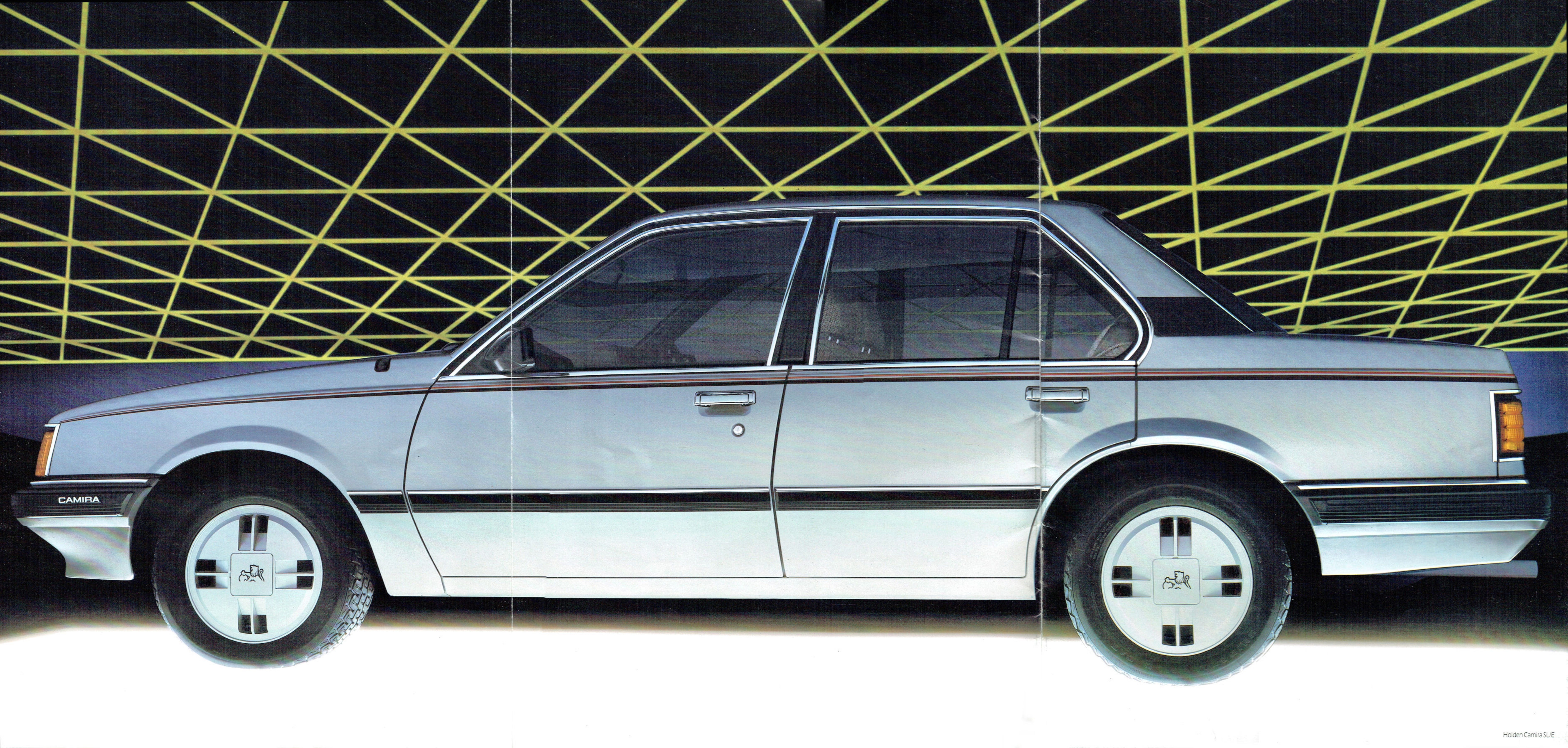
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CAMIRA



Holden Camira SL/E
interior features wool tweed
seating in your choice of three colours.
Optional Automatic transmission illustrated.



CAMIRA

Integrated Trip Computer

TIME 12:00

Reset Hrs Min Select

DISTANCE To Empty Trvd-Cat Avg Speed

FUEL Inst L/100 Avg L/100 Total Used

VOLUME

BALANCE

PAGE

TONE

AUTO REVERSE

AM FM MONO MODE

COLD HOT A/C OFF 1 2 3 4

Instrument Panel

Speedometer (0-180 km/h)

Tachometer (0-8 x1000 rpm)

Fuel Gauge (0-60 LITRES)

Voltmeter (0-16 VOLTS)

Oil Pressure Gauge (0-6)

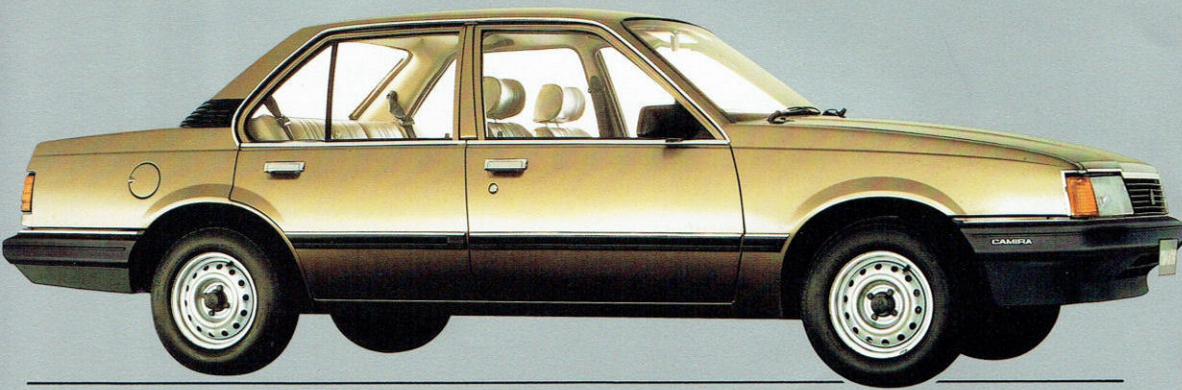
Water Temperature Gauge (0-100)

Wash/Wiper Control

Ignition Switch (LOCK, INT, OFF)







SL - the base Camira with a lot more than just basics.

The Camira SL embodies everything you expect in a modern car, and a great deal more. Day and night, you are surrounded by driving aids, convenience and comfort features which contribute

to pleasant journeys. In Summer, an extremely efficient flow-through ventilation system minimises any heat discomfort; in Winter you will never be cold, thanks to an equally efficient heater-demister system. You'll find the SL satisfying in every fundamental way.



Digital Clock

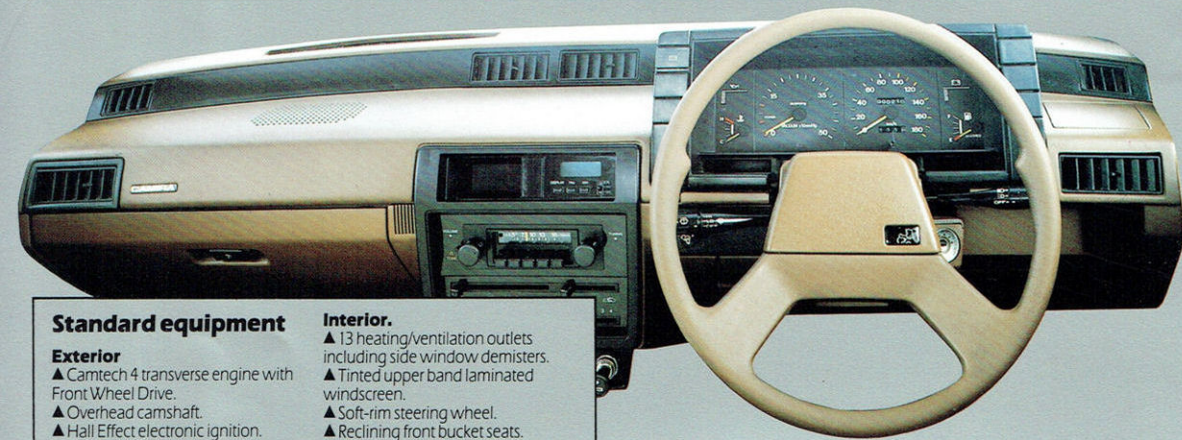


SLX More luxury and convenience for just a little extra.

The Camira SLX is distinguished by exterior touches designed to heighten styling features. Inside, you'll notice more obvious differences... softer, warmer cord cloth seating and extra

refinements to controls and interior detailing. The SLX gives you an improved sound system, with stereo cassette player, FM stereo as well as AM radio reception and two speakers. There's extra convenience for rear seat passengers, too, with

retracting outboard seat belts and door grip handles. Camira's phenomenally serene ride is enhanced in the SLX with the addition of even more body insulation material to give you luxury car quietness.



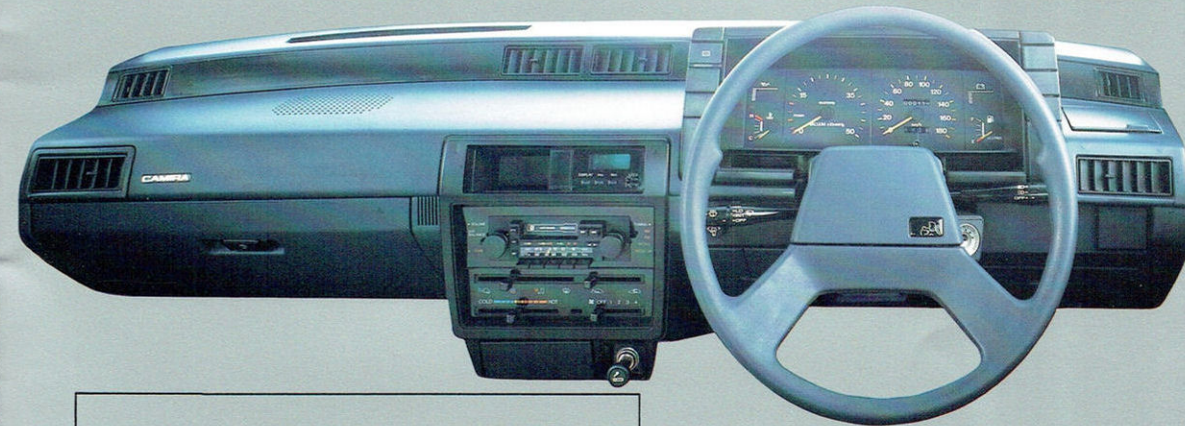
Standard equipment

Exterior

- ▲ Camtech 4 transverse engine with Front Wheel Drive.
- ▲ Overhead camshaft.
- ▲ Hall Effect electronic ignition.
- ▲ Engine Management Module incorporating Electronic Emissions and Engine Economy System.
- ▲ Crossflow radiator with high energy core.
- ▲ Coolant recovery system.
- ▲ 4-speed manual transmission.
- ▲ Variable Ratio rack and pinion steering.
- ▲ Coil spring suspension at all 4 wheels.
- ▲ Front stabiliser bar.
- ▲ Rear stabiliser bar.
- ▲ Radial Tuned Suspension.
- ▲ Power brakes: front disc/rear drum.
- ▲ Aero styled exterior R.V. mirror with breakaway safety feature.
- ▲ Wide full length body side mouldings.
- ▲ Recessed lock-down radio antenna.
- ▲ Quartz halogen headlights.
- ▲ High intensity reversing lights.
- ▲ Polypropylene splash guards in front fender liners to prevent mud packing and stone damage.
- ▲ Corrosion protection package.

Interior.

- ▲ 13 heating/ventilation outlets including side window demisters.
- ▲ Tinted upper band laminated windscreen.
- ▲ Soft-rim steering wheel.
- ▲ Reclining front bucket seats.
- ▲ Front seat head restraints.
- ▲ High density sound insulation materials on floor, roof and luggage area.
- ▲ Tray-type locking glove box.
- ▲ Heated rear window.
- ▲ Vacuum Economy Gauge.
- ▲ AM Radio.
- ▲ Digital clock.
- ▲ Central dome light activated by all doors.
- ▲ Secondary weather strips for improved dust sealing.
- ▲ Dust sealing panels at base of body pillars.
- ▲ Armrests on all four doors.
- ▲ Overhead assist handles for passengers.
- ▲ Rear coat hooks.
- ▲ Rear ashtray.
- ▲ Illuminated cigarette lighter.
- ▲ Trip meter in speedometer.
- ▲ Fuel and temperature gauges.
- ▲ Brake failure and parking brake warning lights.
- ▲ "Child-proof" rear door locks.
- ▲ Child restraint anchorage points for rear seat.



Standard equipment (in addition to SL model features).

Exterior

- ▲ Chrome wheel trim rings
- ▲ Centre wheel trims
- ▲ Bumper rub strips
- ▲ Tinted side and rear glass
- ▲ Black side window frame surrounds
- ▲ Rear end bright moulding.

Interior

- ▲ Loop pile carpet on lower door trim
- ▲ Vinyl door insert
- ▲ AM/FM stereo radio/cassette, two speakers
- ▲ Dwell windscreen wipers
- ▲ Cord cloth seating
- ▲ Glove box light
- ▲ Parcel shelf
- ▲ Rear door grip handles
- ▲ Remote control driver's exterior mirror
- ▲ Boot floor carpet
- ▲ Outboard rear seat retracting seat belts
- ▲ Additional insulation
- ▲ Coin box.



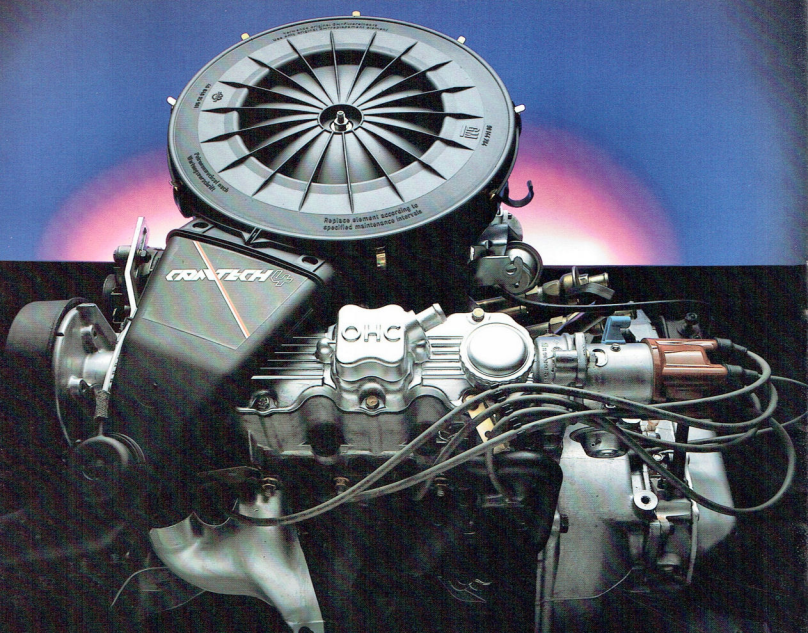
Remote control driver's exterior mirror



ANATOMY OF A SUPERCAR

A car is no longer the comparatively straight-forward engineering creation it once was. Modern technology, expanding literally week by week, is the source of each of the thousands of components of today's vehicles.

To make an intelligent appraisal of the relative virtues of today's cars, it is not only desirable, but necessary, to understand something of the technicalities involved. To help you appreciate the superior standard of technology GMH has achieved in the Holden Camira, we present in the following pages a summary of the car's most significant engineering features.



CAMTECH 4

A new achievement in engine design.

Camira's sleek new wedge-shaped body will draw admiring looks wherever it goes, but its newness is more than just skin-deep.

For the heart of its attraction is the Camtech 4, a brand new 4-cylinder engine that is nothing short of

amazing in lightweight, compact, efficient engine design.

It satisfies the conflicting requirements of emission control, fuel economy and the driver's demand for performance and driveability.

For Camira, we wanted a new engine that would:

▲ Develop maximum power

from minimum size and weight

▲ Produce the best possible performance with outstanding fuel economy ▲ Burn cleaner than

required by emission control legislation ▲ Be quiet and

vibration-free for longer component

life ▲ Achieve a new low level of

maintenance ▲ Survive everything the Australian environment could

throw at it.

Not only have all these objectives been achieved, but in some cases exceeded, in the amazing new Camtech 4.

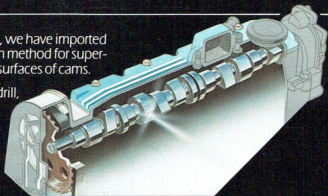
Starting from the top, here's how we've done it.

Laser drill technology.

Camtech 4's overhead camshaft uses new technology throughout its manufacture.

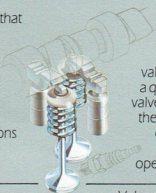
For instance, we have imported a new German method for super-hardening the surfaces of cams.

And a laser beam drill, developed here in Australia, has been used for the first time to drill the fine 1 mm oil holes through the camshaft lobes.



Instead of tappets that require adjustment, Camtech 4 employs hydraulic adjusters as a fulcrum for the cam followers.

The low mass of the few moving parts removes limitations on valve train performance at high speeds.



With zero clearance provided by the self-adjusters between cams, followers and valves, the result is a quieter running valve train without the characteristic chatter of tappet-operated valves.

It also does away with one maintenance job completely – automatic valve clearance adjustment means it never requires manual adjustment.

To quieten the valve train operation even further, camshaft drive is by a super strong fibreglass-reinforced rubber belt. This broad-toothed belt gives a precision drive from crankshaft to

camshaft. It is almost noiseless in operation, simple to adjust, and needs no lubrication. In service in Camira's sister cars around the world, the belt has proved to be virtually unbreakable.



Fibreglass reinforcing gives camshaft drive belt extra-long life.

Valve seating surfaces are stellite-faced and stems are induction hardened to extend their life.

Cross-flow head efficiency.

Camtech 4 features a cross-flow alloy head for greater fuel efficiency and a broader range of useable torque. The influence of hot exhaust is removed from the intake side of the engine. This increases efficiency by allowing a cooler, denser charge of fuel/air mixture.

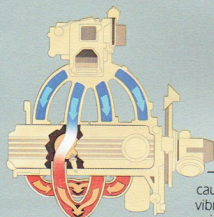
A cross-flow head improves the volumetric efficiency of the engine by improving cylinder charging and evacuation – better 'breathing' which contributes to higher power.

'squish' areas on piston heads to create high turbulence in the chamber.

The result is a faster burn. More efficient combustion of fuel allows less to be used.

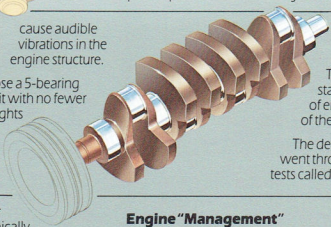
War against vibrations.

A lot of time and development went into the design of the cylinder block and crankshaft. The crankshaft is the major source of the forces that can



cause audible vibrations in the engine structure.

That's why we chose a 5-bearing crankshaft and fitted it with no fewer than eight counterweights (four pairs) which soak up the rotating forces and result in smoother operation at high rpm.



To conquer the many other complex forces, we have extended the cylinder block below the crankshaft.

This gives the housing far greater stability than the standard method of ending the block at the centre line of the crankshaft.

The deep, rigid cast-iron block then went through a series of vibration tests called Modal Analysis.

This computer technique graphically shows the design engineer the optimum location for stiffening ribs to further enhance the stability of the cylinder block.

This was important in our 'long life for components' objective – that auxiliary engine parts be placed where they would suffer the least amount of stress.

Engine "Management"

The Camtech 4 has a high compression ratio – 9.2 to 1. Increased compression means increased engine efficiency, but it also means, apart from the need for great robustness in fabrication, that a more precise spark timing is required to get optimum performance and fuel consumption with low emissions.

Hall Effect electronic breakerless ignition system in Camtech 4 replaces the conventional distributor for low maintenance and long-life precise ignition.

The 'brain' of the spark timing system is contained in a little black box under the bonnet called the 'Engine Management Module' (EMM). It is a complex electronic logic circuit that

keeps Camira performing efficiently under all driving conditions and at various engine temperatures.

The EMM continually digests and analyses data from sensors in the engine and transmission, then instantly adjusts spark advance for optimum performance and economy.

It is especially efficient in maintaining economy in stop/start city traffic. And, unlike conventional distributor systems, Camtech 4's Hall Effect ignition is not reliant on some of the parts that can wear or lose precision – for example: contact breaker points. It's another way you save on maintenance.

From dirty to clean.

Ever since emission control legislation was introduced, Engineers have been searching for better ways to develop a 'cleaner' engine so that the effect of performance-killing controls could be minimised.

In Camtech 4, GMH Engineers have reached a new peak of efficiency. Briefly most engines go through

'clean' and 'dirty' running modes, so we divided our emission control into two sections.

The 'clean' running stages are controlled by a Holden designed system called 'Pulsair' which burns off excess hydrocarbons and carbon monoxide with no detrimental effect on engine power. The energy of exhaust gas pulses is used to draw

air into the exhaust ports where the gases are at their hottest. This produces an after-burn effect, cleaning up these harmful emissions.

The remainder of emission controls required are performed by the Holden-designed Engine Management System – a complex of two 'black boxes'. One box, the electronic brain, does the thinking,

and the other, a vacuum control unit, does the work.

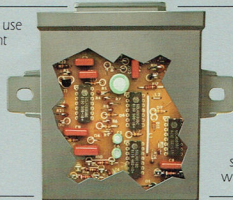
The system monitors engine speed, vehicle speed, engine temperature and engine load.

It adjusts spark advance, EGR (Exhaust Gas Recirculation) flow rate and the throttle positioner.

Exhaust gas re-circulation (EGR) is used in most vehicles sold in

Australia, but without the use of an 'Engine Management Module' it is 'on' much of the time and markedly lowers engine performance.

The idea of our EMM is to have emission control only when you need it, and only in degrees that will not adversely affect performance. EMM also operates to hold the



throttle slightly open only during initial deceleration of the vehicle. This is necessary to control excessive hydrocarbon emissions that occur when you take your foot off the throttle. This deceleration control is not noticed by the driver, as it overcomes the problem of some systems, which hold the throttle slightly open for some seconds, when no throttle is required at all.

Via an idle-load compensator, it ensures that the engine idles at the correct speed regardless of the varying loads imposed on it by the alternator, and the air conditioning compressor (opt).

The Camtech 4 Engine Management system, in total, provides extremely effective emission control for environmental purposes, while

maximising driveability and fuel economy.

Special Cooling.

A new, Australian-designed cooling system also contributes to Camtech 4's amazing performance and economy.

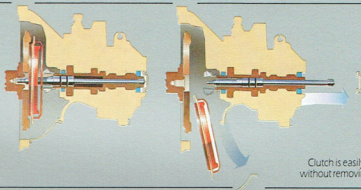
Unlike competitive cars with conventional continuous running fan belts which can absorb up to 3 hp,

the Camtech 4 has an electrically-driven, thermostatically-controlled cooling fan. It quietly cuts in only when necessary, ensuring optimum temperature with no needless power or fuel penalty.

A new GMH-designed cross-flow copper-brass radiator saves weight and resists corrosion.

Manual transmissions.

Camira's 4-speed manual transmission, standard on SL and SL/X models, is solidly engineered, responsive in action, and designed to comfortably cope with the power of the CAMTECH 4 engine. The SL/E model features a 5-speed manual transmission as standard, for even more tranquil top-gear cruising and improved fuel economy.



Brand new automatic transmission.*

Camira's newly-developed 3-speed Turbo-Hydramatic 125 automatic transmission* has been specifically engineered for use with smaller engines and front wheel drive.

It also has an outstandingly smooth change action. A precision-matched torque converter and new vane-type

oil pump ensure particularly high efficiency with a sharp narrowing of the differences in fuel consumption between manual and automatic transmissions.

*Optional equipment on all Camira models.

The Front Wheel Drive Advantage.

If Camira is your first front wheel drive car, then you'll want to know

what the benefits are. First, the big benefit is in the driving.

Front wheel drive means that the car is pulled by the front wheels, rather than being pushed by the rear wheels.

Concentrating the weight of the engine over the driving wheels means traction is greatly improved. And it is good traction that allows

a car to negotiate wet and slippery roads, and maintain directional stability through tight corners, with greater safety and ease.

In Camira, a second advantage is the exceptional amount of interior space for both passengers and luggage.

This is because the engine is

mounted transversely, permitting a much more compact engine compartment.



Yet, while the engine compartment is smaller there is still plenty of room under the hood for routine maintenance.

Ease of service, maintenance and repair was paramount in the design. Spark plugs, carburettor, distributor, oil filter, camshaft drive belt and exhaust

and inlet manifolds are completely accessible. The engine does not need to be removed for gearbox service, nor does the gearbox need to be removed to extract the clutch.

Constant Velocity Universal Joints.

On Camira, maintenance-free constant velocity joints on the final drive shafts remove the hassle

associated with many other front wheel drive cars. This is entirely due to the insistence of GMH Engineers on employing only the very best components available throughout Camira.

So in both manual and automatic models, the outer constant velocity joints are high quality sophisticated Rzeppa-type, which have been

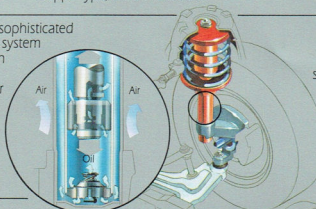
thoroughly tested in use around the world.

Suspension System.

Front wheel drive has certain inherent virtues in good handling. The aim was to build on those virtues in Camira to produce a refined car of class-beating standards of both handling and ride comfort.

Camira's highly sophisticated 4-coil suspension system features McPherson wet struts up front, designed especially for Australian conditions.

These consist of a vertical coil spring surrounding a shock absorber within an oil bath which is directly cooled by air.



This prevents heat build-up and practically eliminates the fading suffered by conventional suspension systems over such torture surfaces as long stretches of typically Australian corrugated road.

This system does more than just absorb bumps. It's designed to keep the tyres in maximum contact with the road,

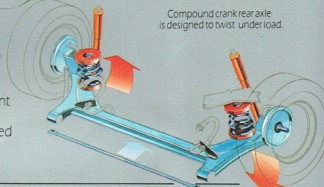
however rough.

A unique compound crank axle system used at the rear combines the benefits of both a rigid axle and independent rear suspension.

It works like this: two trailing links are connected by a U-shaped torsion beam. When loads are transmitted to both trailing arm bushes concurrently, pitch and roll remain

constant as with a rigid axle, prolonging tyre life. Under roll conditions, the reaction is similar to independent suspension.

The whole system is computer-tuned to get the best from Camira's steel-belted radials.



Compound crank rear axle is designed to twist under load.

It has also undergone thousands of hours of testing at the GMH Proving Ground and in the outback, on all kinds of surfaces – brutal rocks, corrugations, gravel, bluestone paving, sand and macadam.

The result is a smooth, durable suspension system designed and proved for all types of Australian conditions.

Swift, sure stops.

High performance calls for highly efficient brakes.

And Camira's braking system, designed and developed by GMH for Australian conditions, provides extremely short, safe stopping distances, come rain or shine. At the front the disc brakes incorporate large 54 mm diameter

floating calipers with long-life asbestos-free friction material. Large diameter drum brakes at the rear also feature automatic adjustment for wear.

The dual hydraulic circuit, with a new lightweight, compact aluminium master cylinder, ensures that in the unlikely event of one circuit failing, the other still functions.

A vacuum power booster helps to reduce brake pedal effort.

In addition, the system has been designed with the capacity to accommodate "tap in" hydraulic trailer brakes.

Steering a new course.

Camira has an all-new steering system which is the first of its kind in Australia. It is protected by a world

patent. Engineers call it "Variable Ratio rack and pinion". You'll call it Super.

What this all-new Australian-designed steering does is to solve a tricky problem which has eluded Engineers around the world for years – how to overcome the conflicting requirements of very light steering at parking speeds (even on full lock)

while remaining crisp and direct for normal driving.

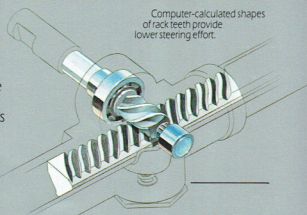
Briefly, rack travel in any car is very limited – about six inches from side to side. To achieve lighter steering effort, gearing ratios must be increased towards the ends of the rack (full lock).

The Australian solution was to invent a "Y"-shaped rack bar with very precise, computer-calculated teeth

sizes and shapes which vary along the length of the rack. The result is that in the centre position, low gearing ratios enable quick, direct steering.

As the steering wheel turns towards either full left or right hand lock, the gearing increases so that there is little perceptible increase in effort at parking speeds.

Computer-calculated shapes of rack teeth provide lower steering effort.



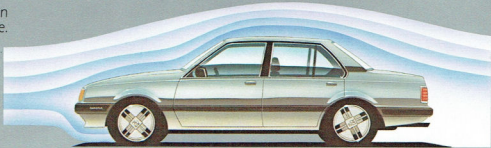
Hence the term variable ratio and the reason why the new Camira needs considerably less effort to park than cars of comparable size and weight.

You're in great shape.

In pure styling terms, the new Camira is an extension of the European

styling so successfully established in Australia by the Holden Commodore.

The same kind of advanced computer technology and engineering that went into making Commodore such a success also has been used to design Holden's newest, most efficient energy form – the compact Camira.



Efficiency in aerodynamics, for instance. Aerodynamic efficiency is essential to modern car design because it can significantly reduce fuel consumption.

So like its big brother, the new Camira's styling is based on extensive testing in two of the world's largest wind tunnels, in the U.S.A. and at Opel in Germany.

The smooth, wedge-shaped front end with its integrated front air spoiler is designed to cheat the wind and improve roadholding, especially at high speed and in cross-winds. Even detail items, like the driver's door mirror, the shape of the roof pillars and the angle of the windscreen – all are wind tunnel-researched and developed to reduce drag and increase fuel efficiency.

Shedding excess fat.

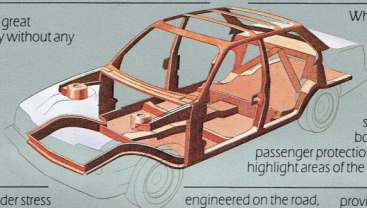
Weight efficiency is another Camira achievement.

In many cars, power is wastefully absorbed in moving excess weight, with related wastage of fuel.

In Camira, extensive use of a computerised structural examination called "Finite Element Analysis"; (FEA)

ensures a body of great strength and rigidity without any excess weight.

This computer analysis method is similar to the technique used to design the U.S. Space Shuttle and other space vehicles where strength with lightness is a major requirement.



What FEA does is to separate the body structure into many thousands of individual elements and pinpoint areas of high stress which require special strength for both durability and

passenger protection, also to highlight areas of the body structure

which are not under stress and yet accordingly can be made lighter.

FEA permits modification and testing of structural elements on a computer screen even before the car is built.

The combination of aerodynamic efficiency and weight reduction means that Camira feels solidly

engineered on the road, yet carries no excess "fat" to affect fuel consumption.

Space to spare.

Aside from setting new standards in engineering efficiency, Camira is also very much "people efficient".

The front wheel drive/transverse engine layout allows more of the total length of the car to be used to

provide an exceptionally spacious interior for five Australian-size adults.

Front wheel drive also allows a smaller central tunnel and a lower rear floor compared with rear wheel drive cars. This gives rear seat passengers more legroom.

Boot space is absolutely amazing – wide, long and deep – bigger than any car in its class. It's 402 litres of

unobstructed space, with the spare wheel out of the way under the floor.

This is achieved by locating the fuel tank ahead of the rear axle for more space (and greater safety in the event of a rear end collision).

The Miniblock rear coil springs allow a lower rear frame

and deeper boot. And, of course, with no rear axle differential to create a hump, the boot floor is flat.

The quest for quietness.

New efficiency in noise and vibration levels results from another GMH computer programme and adds to Camira's overall comfort and driving pleasure.



Conventional spring.



Space-saving Miniblock spring.



By attaching electronic devices to the body, we were able to pinpoint sounds from all areas – the body itself, the powertrain and suspension – identify their sources, and trace their noise paths.

These were then isolated from the passenger compartment by special anti-noise "patches" used to cover apertures within the body.

Camira's aerodynamic design plays its part in this, too, by reducing wind noise. In addition to a wind-cheating shape, Camira is streamlined at the windscreen and rear window by flush-bonded glass. This technology – new to Australia – eliminates bulky glass mouldings and trims so that the glass meets the metal body with only a minimal protrusion that dramatically reduces wind resistance,

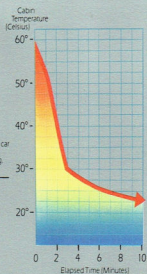
turbulence and noise. What little noise is left is effectively dampened by a barrier of high density synthetic rubber on a polyurethane foam pad – another technological first in Australia – for the front floor and inner dash, together with bituminous noise deadener sheets in the front and rear floors, felt insulation in the roof, rear floor, tunnel, upper dash and rear

window shelf, plus foam sealing in doors and rear side pillars. There's even sound deadener in the boot, and noise silencing fibreglass insulation under the engine hood.

It all adds up to one of the most advanced, effective vehicle noise reducing systems in Australia.

Supercool.

Early in the development of Camira, GMH Engineers determined that this car would introduce a super air conditioning* system. Not only would the system be superior in performance to others offered with cars in its class, but equal to or better than those fitted to the most expensive and luxurious cars.



Dramatic reduction of car interior temperature by Camira air-conditioning.

A further aim was that, should you want air conditioning after delivery, Camira's system would be specially engineered so it could be fitted any time and be identical to one installed at the factory – invisible from inside the passenger compartment except for the normal controls.

The major design parameter was that Camira's cooling system should be

able to keep the car's occupants comfortable in the extraordinary extremes of temperature experienced throughout Australia.

The ultimate criterion of air conditioner performance is called "pull-down time" – the period taken by the system to pull down the inside temperature of a car from the level of ambient outside temperature,

or higher, to a standardised comfort level inside, with all windows closed.

The ability of a system to achieve acceptable pull-down times is

governed mainly by its capacity. Camira's air conditioner capacity is rated at a very high 1.5 tonnes – in other words, under defined conditions, it could actually produce 1.5 tonnes of ice in 24 hours.

In GMH tests in environmental chambers with the temperature at a searing 38°C (some 65°C inside the car) Camira was able to pull

down the temperature to *22°C in 5 minutes, and maintain it. (*Measured at face level in front compartment.)

What's more, it could do it all day, without the engine overheating. Camira's air conditioning produces outlet temperatures of around 6°C – Several degrees below what air

conditioning systems on other vehicles can achieve.

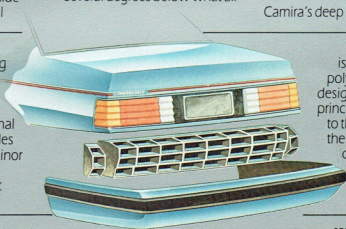
*Optional equipment on all Camira models.

Taking life's little knocks.

On Camira, we didn't stop with a more efficient body. We also added more efficient bumpers to protect it, and the people inside it.

Camira's deep bumpers are made

from tough, energy-absorbing rubber-modified polypropylene. This material makes them lighter than conventional steel bumpers, yet provides great protection against minor impacts at low speed. The rear bumper, which must absorb impact energy before



body damage occurs, is mounted on a special polypropylene energy absorber designed on the egg crate principle. This absorber is fastened to the body and extends across the full width into each corner for additional protection against side impacts.

Driving by computer.

Camira's astonishing optional Trip Computer* – brilliantly designed by Australian electronics specialists – can give you 7 pieces of vital information as you drive, instantaneously.

It can show you how far you've travelled, and advise you of your fuel consumption.

It can tell you how far you can travel on your remaining petrol. Your average speed. Your average fuel consumption, instantaneous fuel consumption, and total fuel consumption for the whole trip.

And, of course, it gives you the correct time.

*Optional equipment on Camira SLX and SL/E models.

Where less is more.

Advanced technology even extends to Camira's new Australian built powerful but compact battery.

It retains the capacity to support the total electrical loads of the car, should the alternator ever fail. For example, you could drive your Camira for at least 60 km at 80 km/h with lights

on and windshield wipers operating, without any charging input. And of course in the day time the Camira could cruise for several hours.

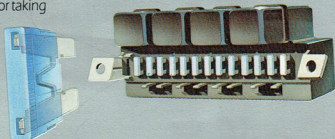
The fuse itself is simpler to remove or replace. Each has its own built-in mini handle, so there's no fumbling about putting one in, or taking one out.

should you be caught in an emergency. Camira is equipped at the factory with a spare fuse.

No-fumble fuses.

A new fuse system, called Mini Fuse, protects Camira's electrical circuits. And it's the easiest-to-manage-fuse system you've ever seen in any car.

And all fuses are 15 amps, except for the audio circuit. Which means you can replace a fuse in a critical area with one from a non-critical area



Sophisticated Sound Systems – standard.

The quality of a car's audio system is related to the speaker output, and in Camira this is directly keyed to the luxury level of the model you choose.

Camira SL's have a 6-watt push-button AM radio as standard equipment, with the speaker housed in the instrument panel.

Camira SLX's feature AM/FM Stereo Radio and Stereo Cassette with a very effective two speaker system and a power output of 12 watts. The cassette player has auto reverse, locking fast forward and re-wind, Dolby* noise reduction and loudness control.

In the top-of-the-line Camira SL/E, you're surrounded by sound with

4 speakers (one in each front door and two in the rear window shelf), each with its own amplifier, plus built-in left to right speaker balance control. Power output is a super 24 watts – greater than many home stereo systems.

*Dolby® is a registered trade mark of Dolby Laboratories.

Weatherproofed, Inside and Out.

Zinc, plus primers, provides better protection against rust and corrosion than just primers alone. And, more than any car in its class, the new Camira uses zinc pre-coated steel for body panels, similar to the galvanised steel used in buildings, to help protect your investment.

For example, 13 skin panels are zinc-

but also affects body strength.

In addition, during body build, a zinc-rich primer is sprayed on to 12 localised areas, ensuring full coverage.

After assembly, the body is dipped into a new epoxy primer beyond the belt line and baked on, ready for the surface primer spray. The body is then

cleaned, plated with zinc phosphate, and three coats of durable, lustrous acrylic lacquer, are baked on.

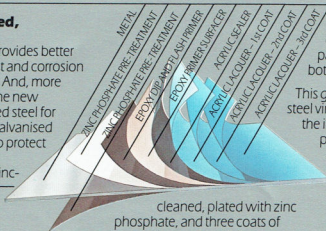
For good measure, a corrosion preventative wax is sprayed into box sections after the final coat.

Other anti-corrosion detail includes hem flange sealing for doors, boot lid and engine hood; extra drainage

coated on the inside where corrosion can begin, and 16 internal structural panels are coated on both sides.

This greater use of pre-coated zinc steel virtually eliminates rusting from the inside out through body panels, which is not only the most difficult and costly to repair,

holes in extreme corners of all doors where the most damaging corrosion starts; bright aluminium trim instead of stainless steel to limit severe galvanic reaction with body steel; and polypropylene splash guards in the front fender wheel arches to prevent mud packing and stone damage.



Safety/Security features built into every Holden Camira

- ▲ Seat Belts for all occupants
- ▲ Energy absorbing steering column and steering wheel
- ▲ Tandem Brake Cylinder – Diagonally split hydraulic circuits
- ▲ Safety glass side and rear windows – Tinted upper band

- laminated windscreen
- ▲ Electrically heated rear window
- ▲ Quartz Halogen headlamps
- ▲ Glare-reduced safety padded instrument panel
- ▲ Low profile window regulator handles
- ▲ Sun Visors – Energy absorbing
- ▲ Flush fitting lift-up exterior door handles
- ▲ "Child proof" rear door locks
- ▲ 2-jet

- electric windshield washer
- ▲ 2-speed windshield wipers with glare reduced arms and blades
- ▲ Back-up lamps
- ▲ Fusible link in wiring harness
- ▲ Fan assisted heater – demister with 13 outlets including side window demisters
- ▲ Brake failure warning lamp
- ▲ Safety rims on both sides

- of road wheels
- ▲ Front seat head restraints
- ▲ Hazard warning flasher
- ▲ Child restraint anchorages for rear seat
- ▲ Fuel tank mounted forward of rear axle for protection in rear end impact
- ▲ Radial Tuned Suspension
- ▲ Anti-theft combined steering/ignition lock
- ▲ Spring loaded knock-out type internal

- rear vision mirror mounting with shatter-resistant glass
- ▲ Safety anti-burst door locks
- ▲ Flow-through ventilation
- ▲ Skid header panel above windscreen
- ▲ Centre floor-mounted parkbrake
- ▲ Parking brake warning lamp

Optional equipment

All three Camira models are comprehensively equipped.

For this reason the list of optional extra-cost items is not extensive.

For full details of options, and prices, please check with your Holden Dealer.

Camira Specifications - SL, SL/X SL/E

Engine: Camtech 4 (4 cylinder)

Overhead Camshaft. Hall Effect electronic ignition. **Stroke:**

79.5 mm. **Bore:** 80 mm.

Displacement: 1.598 litres.

Compression Ratio: 9.2:1.

Power Output: 64 kW (DIN) @ 5800 rpm. **Torque:**

125Nm (DIN) @ 3800 rpm.

RAC Rating: 15.87.

Transmissions: 4-Speed

Manual, (SL, SL/X). Ratios: First 3.55:1, Second 2.16:1, Third 1.37:1, Fourth 0.97:1, Reverse 3.33:1.

5-Speed Manual (SL/E). Ratios: First 3.42:1, Second 1.95:1, Third 1.28:1, Fourth 0.89:1, Fifth 0.71:1, Reverse 3.33:1. **Front Drive:** Drive shafts

from the transaxle unit drive the front wheels. **Final Drive Ratio:**

4-Speed Manual 3.73:1, 5-Speed

Manual 3.94:1. **Radiation Toned**

Suspension, Front:

MacPherson "Wet Strut", coil springs, stabiliser bar. Negative scrub radius. **Rear:** Trailing compound crank rear axle, gives similar effect to independent

rear suspension. Double-acting shock absorbers, progressive rate coil springs, stabiliser bar.

Steering: Rack and pinion, Variable Ratio.

Brakes: Power assisted Front disc/rear drum.

Fuel tank capacity: 60 litres.

Towing Capacity: 500 kg without trailer brakes. 900 kg

with trailer brakes.

Boot Capacity: 0.4 cubic metres (402 litres) useable (GM specification) 0.475 cubic metre total.

Fuel Economy: SL, SL/X:

(4-Speed). City Cycle 9.5 litres per 100 km (29.7 mpg). H'way Cycle 6.4 litres per 100 km (44.1 mpg). **SL/E:** (5-Speed). City Cycle 9.5 litres per

100 km (29.7 mpg). H'way Cycle 6.2 litres per 100 km (45.6 mpg). Fuel

consumption figures stated are the results of GMH-administered laboratory tests conducted according to AS 2077-1979 procedures - "Methods of test for fuel consumption of passenger cars and their

derivatives". City and highway cycles.

Dimensions: ▲ Overall length:

4377 mm (SL) 4399 mm (SL/X,

SL/E) ▲ Overall width: 1668 mm

(SL) 1683 mm (SL/X) 1683 (SL/E)

▲ Overall height: 1370 mm (SL)

1369 mm (SL/X) 1365 mm (SL/E).

Wheelbase: 2577 mm. **Track/front:** 1403 mm. **Track/rear:**

1403 mm. **Turning circle:** Kerb to kerb 10.1 m.

Wheels and Tyres.

SL, SL/X: Wheels: 5.5 x 13 JJ

Pressed Steel. Standard Tyres:

AR78S13 tubeless, steel belted

radials. **SL/E:** Wheels: 5.5 x 14 JJ

Cast alloy. Standard Tyres:

P195/60HR14 tubeless, steel belted radials.

Ground Clearance: SL 136 mm*, SL/X 133 mm*, SL/E 133 mm*

*At 4 passenger load.

Estimated kerb weights:

SL: 1029 kg, SL/X: 1038 kg,

SL/E: 1054 kg.

Service Intervals:

10,000 km or 6 months.

GMH 12/20 warranty.

Every Holden Camira is covered by the GMH New Vehicle Warranty which covers your vehicle for the first 12 months or 20,000 kilometres, whichever occurs first.

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GMH Stock No. AD 10068 Issued July 1982.

