

• 10 January 1985

SIR CLIVE SINCLAIR'S C5 LAUNCHES A 'REVOLUTION' IN PERSONAL TRANSPORT - IMMEDIATELY AVAILABLE ELECTRIC SINGLE-SEATER IS HIGHLY STYLED, EASY TO USE - 1000 MILES FOR THE PRICE OF A GALLON OF PETROL

Introducing a completely new form of practical personal transport for all the family the Sinclair C5 electric vehicle, another world-first for Sir Clive Sinclair, was launched today.

Immediately available at a highly competitive £399 inc VAT, the smartly styled and highly manoeuvrable single-seater can be driven by anybody over 14 without licence or road tax. Entirely pollution free, its range of up to 20 miles (40 miles with an optional second battery) makes it ideal for all types of local journey.

To drive, C5 is both extremely economic - 1000 miles' running for the average price of a gallon of petrol - and easy to use. The driver needs only press a button to start and squeeze a lever to stop, while overnight recharging is done via a specially-developed 'clever' charger from a mains socket.

The public will be able to test drive C5 for themselves at a special launch show at Alexandra Pavilion this weekend, January 12-13. It is also on display at over 100 Electricity Board showrooms nationwide.

Designed by Sinclair and developed and tested by Lotus Cars, C5 has been in production under subcontract at Hoover's Merthyr Tydfil facility since early November. Sinclair expects to produce well in excess of 100,000 vehicles in 1985 creating some 200 new jobs, not including component suppliers.

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Sinclair Vehicles *Public Relations*

Running at the speed of an Olympic sprinter, C5's range and built-in boot make it ideal, SVL believes, for a wide variety of practical and leisure uses. It should appeal equally, for example, to short journey commuters; the housewife for local shopping; and the younger generation as a safer alternative than conventional motorised two-wheelers.

Sir Clive is confident that C5 "will radically reshape and expand the market for practical, personal transport. All else apart" he adds "the vast majority of our test-drivers have found C5 an exhilarating experience to drive".

Incorporating a number of technological 'firsts' in vehicle design, C5 is founded on new 1983 legislation for 'electrically-assisted cycles'. It comfortably exceeds most of the standards laid down by those regulations and in other areas of the design Sinclair has pioneered its own high standards.

A highly efficient, purpose designed lead-acid battery and electric motor drive a revolutionary new body whose advanced aerodynamic shape is both lightweight and yet strong and resilient.

C5's shell, the largest injection moulded polypropylene assembly ever mass produced, is mounted on a new steel backbone chassis, developed in conjunction with Lotus Cars. The chassis is specially coated to prevent rust.

Drawing on the expertise and facilities of organisations such as Lotus and MIRA, the final design has been exhaustively tested and refined to maximise both performance and safety. SVL has also carried out a comprehensive consultative programme with all major UK road safety organisations including ROSPA

- who have produced a special 'Guide to Safer C5 Driving'
- Department of Transport, AA and RAC.

The result has been welcomed as a major advance for road safety and its positive road stability and comfort compared favourably with bicycles or conventional motorised 2-wheelers. C5 is also much more conspicuous yet occupies no more road width than a bicycle, while the average driver's eye-level is the same as in an Austin Mini.

The main control is a steering bar - located parallel to the seat where the driver's hands fall most naturally - a new arrangement which test-users have found easy and convenient. The power is activated from a simple push switch on the left side of the steeringbar and powerful front and rear brakes are operated by cycle type brake levers.

There are no foot controls although C5 is supplied with pedals, another legislative requirement. These can increase range and performance and get the driver home should he inadvertently run the battery flat.

C5 is fully-equipped as standard with lamps, all round reflectors, and for security, a key operated ignition switch to prevent it being driven away. Small LED microprocessor operated display units monitor the motor, the driving load and the battery condition.

Sinclair is also introducing a wide range of accessories including mirrors, indicators, horn and seat cushions, together with special designer-styled weather protection equipment.

The majority of the main component suppliers for C5 are British: the battery is by Oldham, the polypropylene body mouldings by Linpac, and the electronic display unit and control box by AB Automotive Electronics, which is also working on instrumentation for the new Jaguar.

Over 2,000 vehicles have already been built. Mail-order sales commence immediately and as supplies build up Sinclair Vehicles expects to begin sales through high-street retail chains by summer. Export sales will commence shortly afterwards and the company has already identified a number of markets with high potential including France, Italy, Germany and Holland.

Sinclair is very confident of C5s success. SVL's managing director, Barrie Wills, stresses its advantages: "inexpensive to run as well as to buy, quiet and pollution free, comfortable and, above all, safe".

Yet it is only a beginning. By the early 1990s Sir Clive foresees a complete range of traffic-compatible, quiet and economical family vehicles.

Priced at £399 inc VAT, plus £29 packing and delivery, C5 will initially be sold by mail-order via three strategically-placed warehouses. It is inclusive of 12 month guarantee, rechargeable 12 volt battery and charger, and courier delivery within 14-28 days.

Also supplied is a complete owner's pack containing owner's handbook, accessory catalogue and ROSPA's 'Guide to Safer C5 Driving'. Details of comprehensive insurance will be made available. For the young or first time drivers a number of major road safety organisations are planning road awareness courses around the country.

C5 can be ordered from Sinclair Vehicles Limited, FREEPOST, Camberley, Surrey GU15 3BR. Tel: 0276 686262.

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SINCLAIR C5 - DEVELOPMENT OF A CONCEPT

Today's launch of the Sinclair C5 electric vehicle is the result of over 10 years' research and development by Sir Clive Sinclair in the field of electric vehicles. It is also a very significant beginning since Sir Clive foresees the creation of a complete range of family vehicles by the early 1990's.

Supported by an in-house engineering team, originally based in Exeter, Sir Clive's work on electric vehicles began in 1973. A comprehensive design programme commenced in 1981.

Subsequently in 1983, the vehicle programme was acquired by Sir Clive from Sinclair Research Limited (SRL) and established as a separate and private undertaking, the Sinclair Vehicle Project (SVP). The SVP is now managed on Sir Clive's behalf by his wholly-owned Sinclair Vehicles Limited (SVL), founded in 1984.

During the late 1970s and early 1980s the vehicle team designed and built several different prototype concepts. These helped to clarify the profile of a planned 'family' of vehicles which SVL expects to introduce over the remainder of this decade.

From the outset the vehicle team sought radical solutions to the problems of design, materials and power which, according to Sir Clive, "have confounded past electric vehicle programmes."

"Typically," he says "designers have worked with the conventional automobile as a given starting-point. They have then sought, and failed to find, a major breakthrough in the battery field to power it successfully. By reversing the process, accepting current battery technology as given, and designing outwards, there opens up a wide range of completely different and very attractive options."

Within these general design parameters, the specific creation of the new C5 vehicle, the first member of SVL's family, was facilitated by new 1983 legislation. This permitted the use of 'electrically-assisted cycles' by anyone aged 14 or over - without licence, tax, compulsory insurance or helmet.

The law also defined clear restrictions on such areas as performance - the maximum power-assisted speed is 15 mph - and weight. A vehicle in this category may weigh only up to 60kg.

Sir Clive believed this offered a major technical and marketing opportunity perceiving that almost all existing transport options in the marketplace below the Austin Mini - from bicycles to motorcycles - had major demerits on grounds of safety, stability, convenience, pollution, noise and, very often, cost.

Users clearly required an attractive and flexible alternative other than the high and often damaging cost of using a conventional car.

Sinclair's researchers discovered that a three-wheeled vehicle, with one small lead acid battery, could achieve a traffic-compatible running range of up to 20 miles between charges. An ideal solution for all types of local journey, this clearly met the opportunity very effectively and very economically. Calculations suggested a running cost equivalent to a gallon of petrol per 1000 miles.

In development Sinclair worked extensively to maximise ease of use and safety. It also concentrated on design appearance - appreciating that smart styling was vital to achieve real pleasure of ownership - and, fundamentally cost. From the outset, in common with all Sinclair products, Sir Clive aimed at high levels of sales volume.

The resulting vehicle according to Sir Clive is at once "technically advanced, extremely attractive and, in its design simplicity, ideal for the company in terms of mass production and for the customer in terms of ease of maintenance."

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SINCLAIR C5 - TECHNICAL BACKGROUND

For C5, Sinclair Vehicles has drawn on the resources of a wide range of major suppliers - each a leader in its field - and has collaborated with them to achieve significant technical advances in a number of areas.

For power, C5's battery was developed jointly by SVL and Oldham as a supremely efficient version of conventional lead acid technology. Extremely lightweight (only 15kg), with a capacity of 35Ah, it is packaged in a compact polypropylene case. Crucially it has been designed to withstand the 'deep cycling' effect (continual discharge of most of the capacity followed by recharge) which is required to power C5 effectively.

C5's drive motor is one of the few non-British components, supplied by the Italian firm of Polymotor, a subsidiary of Philips, and manufacturer of electric motors for avionic and marine applications including gyros, torpedoes and fast response actuators. The C5 motor is compact and lightweight and has been specifically designed and developed to tailor it for the vehicle application.

The drive to the Torrington-made tubular step-swaged rear axle is taken through an epicyclic reduction gearbox, manufactured by Mikron UK, which incorporates glass reinforced nylon gears and connects directly to the nose of the motor. Drive transfer is by toothed belt to ensure minimal noise and to avoid the need for expensive lubrication systems. Only one wheel is driven, the other being free to rotate relative to the axle.

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C5's control system is relatively simple, not least because there is no regenerative braking requirement; when the motor is not energised, the vehicle free-wheels. The system is based on a printed circuit board by AB Electronics, using an advanced customised Ferranti uncommitted logic array (ULA) chip and an Ital Amec relay. It includes automatic protection against motor overheating, and an additional system which will trip the drive if too much time is inadvertently spent drawing very high currents.

AB also supplied the driver information system in the form of an LED instrumentation pod which monitors motor, driving load and battery condition.

For the driver vehicle control is also simple. A steering bar runs parallel to the driver's seat where the hands fall most naturally and links forward to a control arm located on the front fork assembly. Exhaustive research showed this system to offer the best ergonomics.

Motor control is by means of a left-hand push-switch. The front wheel and the undriven rear wheel are braked, with separate lever controls, one on each end of the steeringbar in orthodox cycle style. A conventional chain drive links the driver's pedals to the driven axle, the fixed gear ratio corresponding to about 3 metres of vehicle movement for every complete turn of the pedals.

C5's body assembly consists of two large polypropylene injection mouldings by Linpac from ICI material. These are joined together by applying conductive tape to the joint and passing an electric current which causes local melting of the plastic and a permanent weld to create the largest ever mass produced polypropylene moulded assembly.

Both construction method and the vehicle's advanced aerodynamic shape - the result of exhaustive testing and refining with wind tunnel and other techniques - are utilised to optimum effect in achieving C5's final stylish design appearance.

Styled by Guy Desbarats, a young graduate of the Royal College of Art industrial design course, the final design incorporates a comfortable seat, rear lockable boot, front and rear lamps, reflectors and optional second battery housing. It also provides for the installation of the key operated security lock and weather protection equipment which are available as accessories.

C5's steel backbone chassis has been developed in conjunction with design-award winning Lotus Cars, who have applied their considerable automotive expertise to all aspects of the vehicle's safety handling and stability. Lotus concentrated not only on proving performance but also on developing the steering geometry, chassis compliance and tyre design and pressures to ensure predictable handling characteristics. The steering geometry has considerable castor angle and a small amount of castor trail and provides consistent feel and good response.

The wheels have been specially designed for Sinclair, moulded from glass-reinforced nylon. The front has a 12½" diameter and the rear wheels 16". The use of relatively large wheels improves the ride and lowers tyre rolling resistance. The turning circle is about two-thirds that of an Austin Mini.

Lotus has also carried out extensive component durability testing on specially-designed rigs, supported by test work at MIRA, British Aerospace and the Prescott Hill Climb Course. In addition, all stages of prototype, pre-production, pilot-build and saleable-production vehicles have been subjected to continuous durability running on specially constructed test tracks at Lotus.

These have simulated a comprehensive range of road conditions, to help build up service experience prior to launch. Further road systems' testing has been undertaken using the facilities of the Transport and Road Research Laboratory (TRRL).

All tests have shown that C5 is exceptionally easy to control. No test subject has experienced any problem in driving the vehicle once the control layout is understood. Almost without exception all have commented not only on ease of driving but also on the sense of enjoyment which C5 affords.

Throughout the development of C5 there has been great concern for safety. In its definitive form the vehicle is highly conspicuous to other road users - thanks to its deliberately light body colour, supplemented by the incorporation of high-intensity reflective tape, produced by 3M and the provision of large lamps and reflectors front and rear. A further enhancement, in the form of a rear mounted 'high-visibility mast' is available from SVL as an accessory.

C5 is also designed for easy evacuation in emergency and the steering control bar is positioned so as to avoid driver obstruction.

Other safety aspects include C5's braking performance, which exceeds the legal standard laid down for this class of vehicle. Particular care has been taken to avoid locking of the front brake to ensure straight-line braking in all conditions. All electrical circuits are fully protected.

In finalising these aspects SVL has undertaken a comprehensive consultative programme with all major UK road safety organisations including the Department of Transport, ROSPA - which has produced a 'Guide to Safer C5 Driving' - the AA and the RAC. The overall response had been most positive and Sinclair is confident that C5 represents a major advance in road safety - meeting many recent calls for a vehicle, similar to the French voiturette concept, which would be safer than conventional 2-wheeled motorised vehicles. Many observers have pointed to C5's clear benefits in this respect - particularly in terms of lower speed, stability and conspicuity.

Finally, care has been taken to ensure that C5 achieves a long service life. The chassis frame is paint finished internally and externally (by Hoover) to a specification similar to that used for appliance shells (which have to survive an environment which makes road-going vehicles appear to have an easy life).

Specifically, the frame withstood the British standard 96-hour salt spray test. The body, being polypropylene plastic, is proof against corrosion. The battery is designed to last through at least 300 severe deep charging cycles though, in normal use, its life will significantly exceed this target and is guaranteed by its manufacturers for 12 months' trouble-free use.

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SINCLAIR VEHICLES LIMITED - COMPANY AND PERSONNEL BACKGROUND

Sinclair Vehicles Limited (SVL) was established in February 1984 to design, develop and market a range of new electric vehicles. Based at the University of Warwick Science Park, it forms no part of Sinclair Research Limited (SRL).

SVL selected Warwick as an ideal location to draw on the various vehicle research and development facilities in the Midlands - most immediately the University's expertise in manufacturing, automotive engineering and electric traction.

It was particularly attracted by potential for expansion at the Science Park and in December 1984 moved into one of the larger technology units, designed specifically for 'high growth research and marketing-orientated companies'.

Now employing 25 staff, SVL has rapidly expanded its senior management and engineering teams, headed by managing director Barrie Wills (see further below), and has now located all R & D and marketing facilities on site.

For the future SVL is developing an extensive range of vehicles. It expects to subcontract all these products for final assembly.

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Senior Personnel

Sir Clive Sinclair, 44, chairman and chief executive of Sinclair Vehicles Limited, began his career in publishing and worked as a technical journalist for four years before founding his first company, Sinclair Radionics, in 1962.

Beginning with radio and amplifier kits he rapidly developed a reputation as a pioneer in the field of consumer electronics and has achieved a number of 'world-firsts' including the 'Executive' pocket calculator (1972), and the 'Microvision' pocket TV (1977).

In 1979 he founded Sinclair Research Limited which has designed and developed a highly successful range of personal computers - the ZX80, ZX81, ZX Spectrum and most recently the QL and ZX Spectrum+. Both the ZX81 and ZX Spectrum have achieved sales of over one-million units worldwide.

In late 1983 Sir Clive was named both as 'The Guardian Young Business Man of the Year' and as 'Computing Person of the Decade'. Later in June he received the major honour of a knighthood in the Queen's Birthday Honours List.

Barrie Wills, 42, managing director of Sinclair Vehicles Limited. Commenced his career with Jaguar Cars Limited as an apprentice in 1959 rising to chief buyer before leaving that company in 1969. Held the position of supplies manager of Leyland Bus prior to joining Reliant Motor Company in 1972, initially as head of supplies, and from 1976 as assistant managing director. He moved to Belfast in late 1978 as purchasing director of the UK end of De Lorean Motors, acting as chief executive during the 1982/3 receivership period. In March 1983, he became head of the Sinclair Vehicle Project Team.

SVL's senior management team is completed by director of finance and administration, Michael Walsh; director of manufacturing operations, Harry Steadman; director of sales and marketing, Terry Shurwood; commercial director, Nick Sutton; and director of product engineering, Peter Milner.

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£3 MILLION ADVERTISING CAMPAIGN FOR C5 ORDER LAUNCH -
RETAIL INTRODUCTION PLANNED BY SUMMER - AFTER SALES VEHICLE
SERVICING FRANCHISED TO HOOVER - 300 OUTLETS TO HANDLE
BATTERY SERVICE

Sinclair's new C5 electric vehicle is the subject of a massive 3-month, £3 million mail order launch advertising campaign, handled by Primary Contact, under the theme 'A new power in personal transport'.

First TV advertising appears tonight (January 10) and will be supported by extensive placements in national and colour supplement media. Targetted broadly at the family audience, Sinclair believes C5 will appeal equally to the younger generation - notably as a safer alternative to conventional, motorised 2-wheelers - and to adults for activities such as urban commuting, shopping and getting to the railway station.

"Fundamentally", says Sir Clive, "with this form of personal transport we're selling a completely new concept, one as revolutionary in its own terms as calculators in the early '70s or home computers in the early 1980s, and one that will create an entirely new and very substantial market. We anticipate 6-figure sales in 1985 alone".

As the cornerstone of its mass marketing strategy, Sinclair aims to maximise initial product awareness amongst the public and has selected mail order deliberately to achieve that goal.

"In the crucial early stages", comments Sir Clive, "we take the risk, have control over demand and supply and, most important, can reinvest the higher sales' margins directly into advertising so providing the best possible platform for C5's retail introduction. Past experience shows that for every one mail order purchaser, a further ten are prepared to purchase immediately on retail availability as a result of the initial campaign".

Sinclair anticipates C5's UK retail introduction by summer. It expects to distribute principally via high street retail chains which will sell the product, a comprehensive range of Sinclair accessories and replacement parts for routine owner maintenance.

The company's mail order and retail marketing plans are supported by a series of major innovations in vehicle' after sales and service techniques. These dispense with the need for a conventional car-dealer and service workshop infrastructure.

C5 servicing is franchised to the Hoover service organisation which has completed an exhaustive training programme for its service engineers, building on its established electrical and electronic expertise. 19 Hoover service offices nationwide, which between them employ over 400 engineers, have been specially equipped to undertake vehicle maintenance on a call-out, door-to-door basis. Sinclair Vehicles is recommending regular 6-monthly services for each C5.

For customers preferring to undertake their own routine maintenance, comprehensive instructions are provided in the C5 owners' handbook and a 'hot line' technical advisory service is available at Sinclair's Camberley distribution centre.

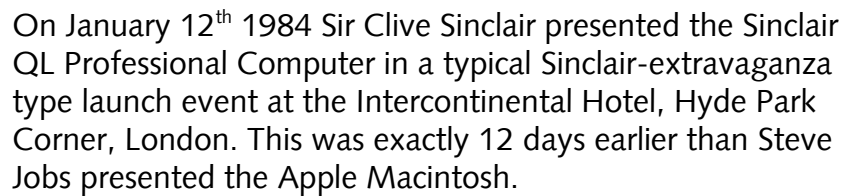
300 Sinclair Battery Centres have been established on a nationwide basis. Comet Group stores and service shops, supplemented by a number of Woolworths stores, are already equipped to provide additional and replacement batteries, installation kits and extra C5 battery chargers. They will also handle customer warranty matters, on behalf of Oldham Batteries Limited, manufacturers of the unique C5 battery.

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During the mail order phase, distribution and door-to-door delivery is to be handled by United Parcels from three strategically located warehouses. Sinclair's Camberley distribution centre will deal with order handling and processing.

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sinclair QL



Urs König (aka QLvsJAGUAR)
http://sinclairql.net/about_urs.html
<https://www.youtube.com/QLvsJAGUAR>
<https://plus.google.com/+QLvsJAGUAR>

Sinclair QL Preservation Project (SQPP)



On January 12th 1984 Sir Clive Sinclair presented the Sinclair QL Professional Computer in a typical Sinclair-extravaganza type launch event at the Intercontinental Hotel, Hyde Park Corner, London. This was exactly 12 days earlier than Steve Jobs presented the Apple Macintosh.

The QL is a very good example of an innovative, stylish, powerful and overall underestimated product and ecosystem. On one hand it failed in the market but on the other hand it influenced many developments which ended in many of today's computing devices.

Bill's Papers - The Sinclair Press Releases



Check out the website <http://sinclairql.net/> – The semi-official website related to the Sinclair QL Professional Computer. **QL forever!**

Urs König (aka QLvsJAGUAR)

http://sinclairql.net/about_urs.html

<https://www.youtube.com/QLvsJAGUAR>

<https://plus.google.com/+QLvsJAGUAR>

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Document details

Topic: Sinclair Vehicles C5 Launch Press Information

Notes: 18 pages of the original Press Kit.
Those unique papers are part of
the original Sinclair Press Releases
folder of Bill Nichols. Bill sent me
this folder in early 2014. At the 30th
launch anniversary date of the C5 I scanned it.

Number of pages (including SQPP cover and back pages): 21

Scanned: 2015-01-10 on a HP C309g

Check out the website <http://sinclairql.net/> – The semi-official website related to the Sinclair QL Professional Computer. **QL forever!**

Urs König (aka QLvsJAGUAR)

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