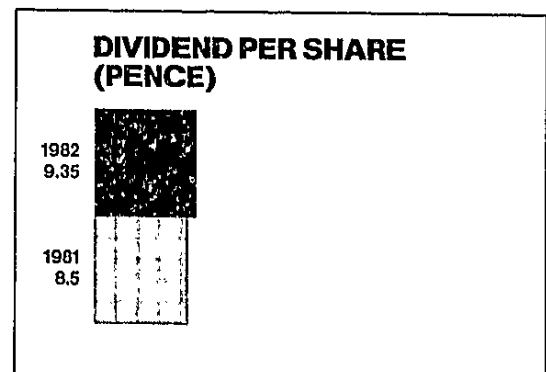
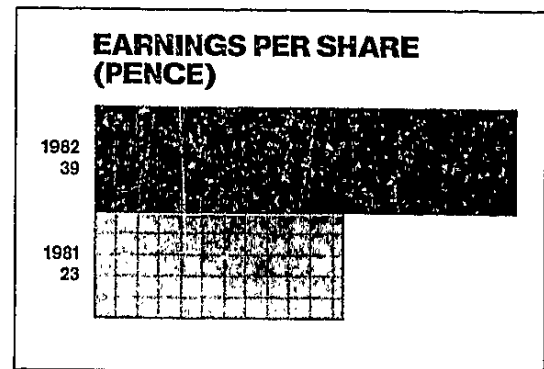
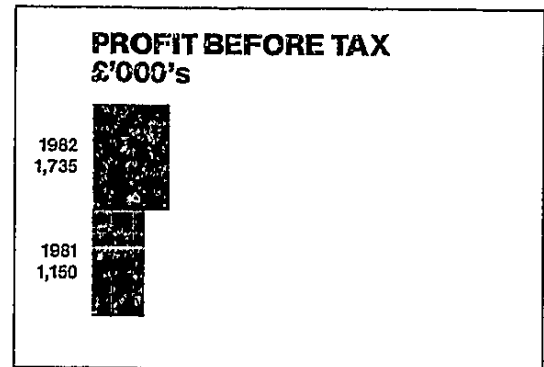
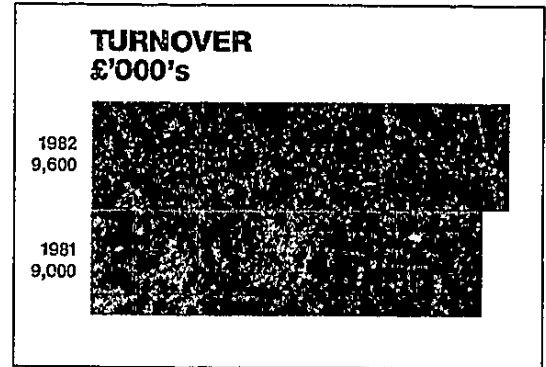


222915  
170

# Financial Highlights

	1982	1981
Turnover	£9,631,000	£8,968,000
Operating Profit before Interest	£1,538,000	£1,179,000
Interest	(£197,000)	£29,000
Profit before Taxation	£1,735,000	£1,150,000
Taxation	£325,000	£377,000
Profit after Taxation	£1,410,000	£773,000
Extraordinary Items	Nil	£11,000
Profit after Taxation and Extraordinary Items	£1,410,000	£762,000
Earnings per Share before Extraordinary Items	39.3p	22.7p
Dividend per Ordinary Share	9.35p	8.50p



23 NOV 1982  
OFFICE

222915

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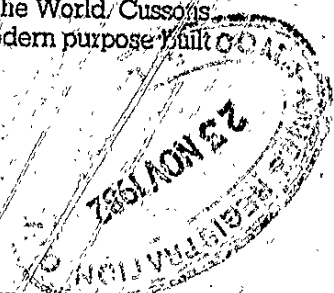
# Company Profile

Ricardo are Consulting Engineers, providing a design, development and research service to a high proportion of the internal combustion engine and vehicle manufacturers of the World. The scope of work covers the whole range of engine type from small outboard and motor cycle units; through passenger car and commercial vehicle power plants; to locomotive, large industrial and marine diesel engines at the top end. Ricardo also serves the engine component industry, materials suppliers, oil companies, chemical companies — in fact all concerned with the internal combustion engine.

Ricardo's contract design work ranges from complete engineering responsibility for a new engine, including the production of the necessary detailed drawings, manufacture of prototypes and development; to conversion of existing designs, such as petrol to diesel; and including dynamic and stress studies of all kinds. Ricardo has an intensive in-house research programme, with particular emphasis on improved combustion systems for both petrol and diesel engines. Its contract research and development work, based on this internally-generated knowledge covers the whole spectrum from fundamental studies of combustion, heat flow and thermal stressing; through straight performance development — including fuel economy improvement, emission control and noise reduction — to durability and reliability testing at the user end.

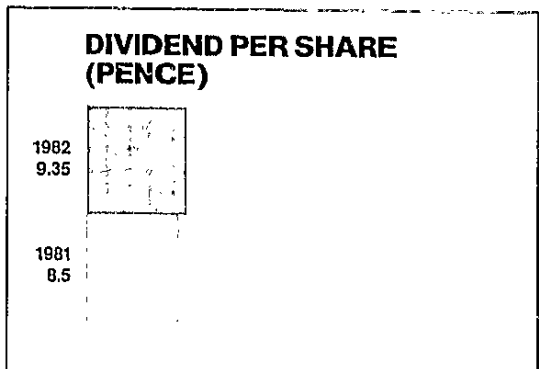
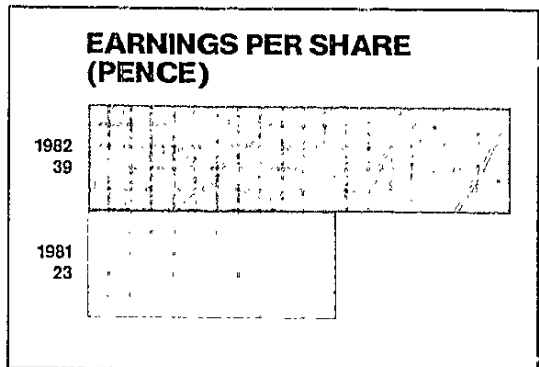
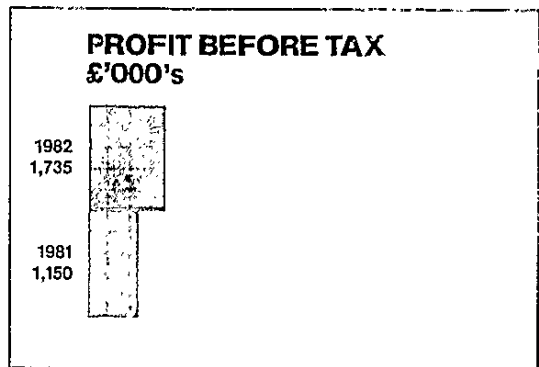
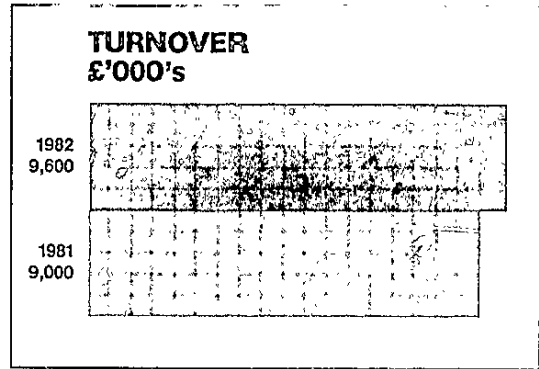
Ricardo has 400 staff working in a modern design office and laboratory which houses over eighty test beds, with absorptive capacities ranging up to 6000 hp, anechoic chambers, chassis dynamometers and other specialist equipment. This is backed by extensive instrumentation and computing facilities, this last including a new computer aided design centre.

Cussons, whose activities are complementary and integrated with those of the parent Company, Ricardo, manufacture industrial instrumentation, particularly that required for engine test work, including emission control. They also manufacture and sell equipment to the engineering laboratories of Universities and Technical Colleges throughout the World. Cussons employs some 100 people in modern purpose built premises in Manchester.



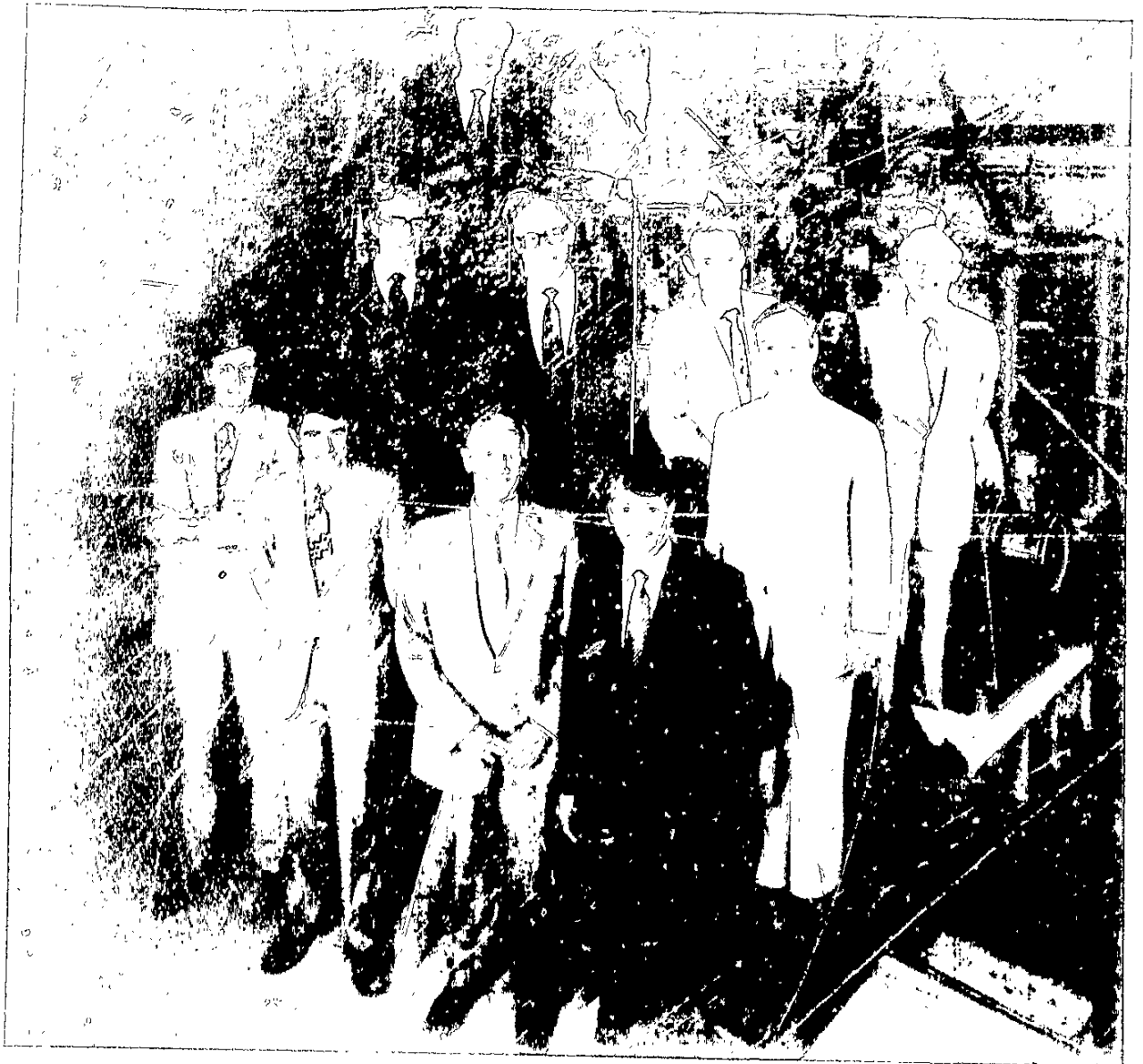
# RICARDO

## Consulting Engineers plc



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## Directors and Other Information

### President

J. H. Pritchard, C.B.E., M.A., F.Eng., F.I.Mech.E.

### Directors

D. Downs, C.B.E., B.Sc., F.Eng., F.I.Mech.E. (*Chairman & Managing*)

C. C. J. French, M.Sc., F.Eng., F.I.Mech.E. (*Vice-Chairman*)

C. J. Walder, C.Eng., F.I.Mech.E. (*Retired 30th June 1982*)

H. W. Parnes-Moss, C.Eng., F.I.Mech.E.

G. H. Harker, F.C.A.

D. Broome, M.A., C.Eng., F.I.Mech.E. (*Deputy Managing*)

M. L. Monaghan, B.Sc., A.C.G.I., C.Eng., M.I.Mech.E.

D. H. C. Taylor, Ph.D., B.Tech., C.Eng., M.I.Mech.E.

W. E. Duckworth, M.A., Ph.D., F.Eng., F.I.M.

Sir Hugh Ford, D.Sc.(Eng.), F.Eng., F.I.Mech.E., F.R.S.

M. J. McClelland, B.Eng., C.Eng., M.I.Mech.E.

### Secretary

C. H. Harker, F.C.A.

Bridge Works Shoreham-by-Sea, Sussex

### Auditors

Touche Ross & Co. (Chartered Accountants)

### Bankers

Barclays Bank PLC

### Registrars

General Agency & Trust Limited

Bourne House, 34 Beckenham Road, Beckenham, BR3 4TU

### Stockbrokers

James Capel & Co.

Winchester House, 100 Old Broad Street, London, E.C.2

## Financial Calendar

### Dividend Payments

#### Ordinary:

Final

22nd October 1982

Interim

15th April 1983

#### Preference:

Interim

31st December 1982

Final

30th June 1983

Annual General Meeting

19th October 1982

Half Year's Results

Announced March

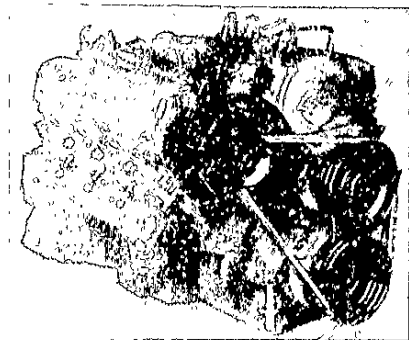
Year's Results

Announced September

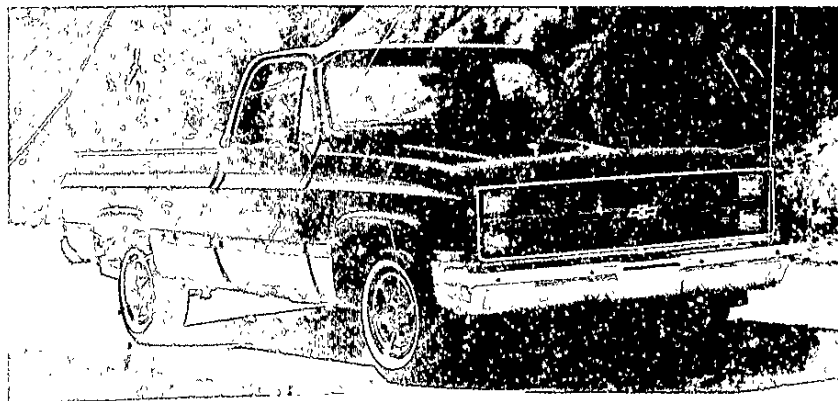
## Chairman's Statement

In the year under review, the trading profit of the Group totalled £1,538,000 and, after the addition of £197,000 interest, the pre-tax profits amounted to £1,735,000, as compared with £1,150,000 the previous year — an increase of 51%. An important factor in the satisfactory outcome of the year's operations has been the turn round of our subsidiary company, Cussons, which, from the losses of the last two years, is again making a profit, albeit small at present. An interim dividend of 3.5p per share (1981, the same) has already been paid and with the final dividend of 5.85p proposed, this would give a total dividend for the year of 9.35p (1981, 8.5p). This distribution is 4.2 times covered by after-tax profits.

When adjusted on a current cost basis, the profit before taxation is reduced to £1,300,000 (1981, £784,000).



*International Harvester's new 6.9 litre V8 diesel engine designed and developed with the assistance of Ricardo's consulting services*



*Chevrolet Fleetside pickup equipped with a 6.2 litre V8 diesel engine designed and developed in collaboration with Ricardo.*

## Ricardo

During the past year, Ricardo continued to gain new clients, in the United Kingdom, in the rest of Western Europe, Canada and the Far East. These acquisitions included engine manufacturers, component suppliers and organisations active in the energy field, this latter an area of growing importance to your Company.

Ricardo's contract design, development and research work covered an equally wide field. During the year two road vehicle diesel engines in the design and development of which Ricardo played a significant part, were announced; the 6.2 litre Chevrolet V8 engine and the 6.9 litre International Harvester V8 engine. In addition, Ricardo assisted in the conversion of a General Motors engine to Texaco's TCCS system under a development programme initiated by United Parcels Service. A vehicle fitted with this engine was exhibited at the SAE Congress in Detroit earlier this year.

An important feature of our contract work during the past year has been the incorporation of the fruits of our own internally-funded research work on new petrol and diesel engine combustion systems into design and development projects for our clients. Our high ratio compact combustion chamber (HRCC) and other lean mixture designs are being applied to our clients' own petrol engines to improve their fuel economy, and, with increasingly sophisticated fuelling and ignition timing controls, to give optimum performance in regard to emissions as well as improved fuel economy under road operating conditions. For the passenger car and similar light duty diesel engine applications, not only are we continuing with the development of

our own well-proven indirect injection combustion system, the Ricardo Comet, but we have been able to apply successfully our own design of direct injection system which offers some 10% to 15% further improvement in fuel economy, and with encouraging results in regard to problem areas such as noise and emissions. In addition, we have come to an agreement with MAN, similar to that which already exists between us in regard to the FM system, for the development and exploitation of their CDI (controlled direct injection) system to light duty diesel engines. This system gives similar fuel economy benefits to the conventional DI, but with particular features of low noise, low nitrogen oxide emissions and the possibility of using fuel injection equipment no more expensive than that currently in large scale production. As a result Ricardo are now in a position to offer their clients a unique range of three diesel engine combustion systems: the Comet, the conventional DI, and the MAN CDI, each of which has particular qualities and which between them will cover all known applications in the light duty diesel engine field.

Increasingly in the future, such engines will be supercharged to enable their specific power outputs to approach more closely those of the passenger car petrol engine. Here again, Ricardo are covering the field, with important work in hand applying mechanical superchargers, turbochargers and, with Brown Boveri of Switzerland, the Compres pressure exchanger to a wide range of light duty diesel engines.

The heavy duty diesel engine for truck and bus applications and the medium speed diesel engine for locomotive, marine and industrial applications have also continued to supply us with a substantial design and development work load. As well as major new designs, studies of emission control, of noise reduction, and the use of lower grade and alternative fuels, have featured largely in these work programmes.

The Ricardo Engine Tests of Lubricants Laboratory continues to attract a satisfactory level of work from Oil Companies and Additive Manufacturers in the United Kingdom and Europe. The reorganisation which is at present taking place within our laboratory will, we believe, lead to an increase in the demand for our services in the near future.

Ricardo's current contract work load is generally satisfactory and, despite the present economic depression in so many of the countries where we operate, we believe that we can look forward to a continuation of this level of activity in the year to come.

## Computing

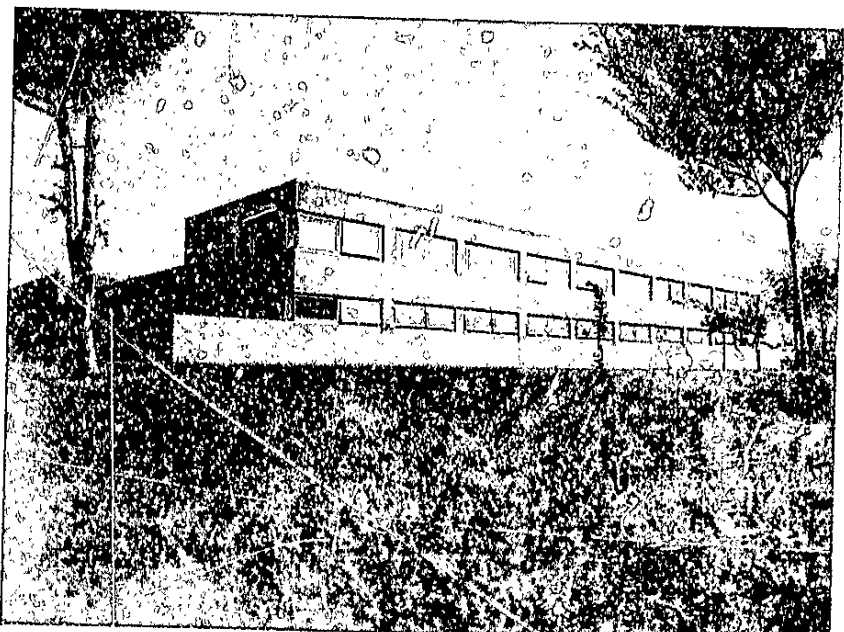
The computer is now central to Ricardo's whole operation. During the year our main technical computer has been upgraded to the more powerful Data General MV8000. This will enable us to run much larger programmes for engine performance simulation, component stressing and both static and dynamic finite element analysis. Additionally this computer is used for the reduction and analysis of our experimental results, including those from the noise area. Here modal analysis is also used, employing its own mini computer. We have installed a McAuto Computer Aided Design system with UniGraphics software, the first phase of which, with six graphics terminals, has been in operation for the past year. Our experience has already shown that, by the use of computers, we are able to improve the technical content of our designs not least by facilitating the study of a greater number of options before a design is finalised. We already have a number of computer-controlled test beds and have designed and are now installing a computer-controlled transient test facility which will enable us to carry out the proposed U.S. Federal exhaust gas and particulates test for truck engines.

Our use of computers is not confined to the technical areas. The ICL 2946 computer in our Accounts Department not only facilitates normal financial operations such as client billing and payroll preparation, but provides regular management information which enables a close check to be maintained on the Company's operations, particularly the progress of client contracts. Additionally, by systematising historical information, it enables us to improve the accuracy of our quotations and of our forward business projections. A good part of the financial success of your Company is attributable to the close attention we pay to the commercial aspects of our business and in this the computer will play an increasing part as the services it can render increase in sophistication.

The Library has for some time been operating a data storage and retrieval system for information from our own and outside sources, using the large memory of the ICL computer. Cussons, too, has been using this computer for stock control and for manufacturing planning, and, in the future, intends using it for the valuation and for the control of work in progress.

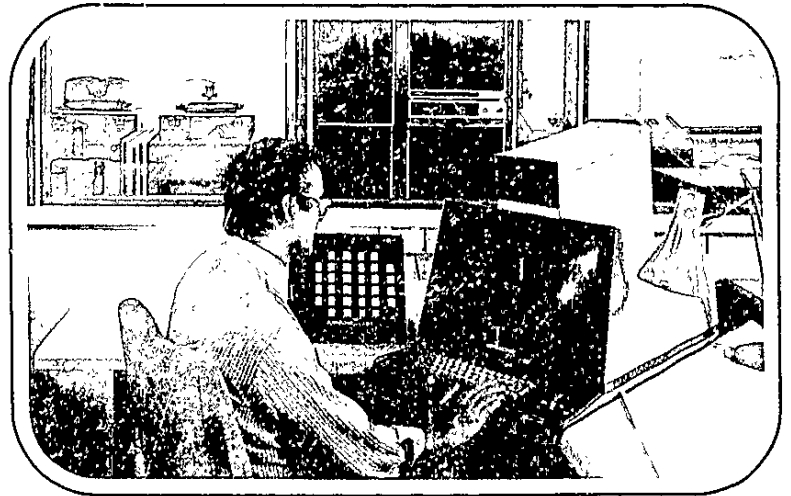
## Capital

I have already referred to the enhancement of our computing facilities, the hardware for which is, in general, leased. During the year we completed the construction of Test Shop No. 17 which is designed to house fifteen of our single-cylinder test engines, mainly engaged on research, some rigs, including those for air flow measurement and for the calibration of fuel injection equipment, together with some much needed office accommodation. The offices are in occupation and most of the rigs have been installed, but it will probably require a further year before all the engines are commissioned on the new site. We spent almost £1½m on new capital projects last year and plan to spend a similar sum in the coming year. We are designing a major extension to the building housing our Installations Department. This will more than double its floor area and will, we believe, enable us to improve the efficiency with which we prepare engines for test and instal them on the bed. We shall also be continuing our investment in new plant, equipment and instrumentation to ensure that the quality of the tools available to our experimentalists remains of the highest.



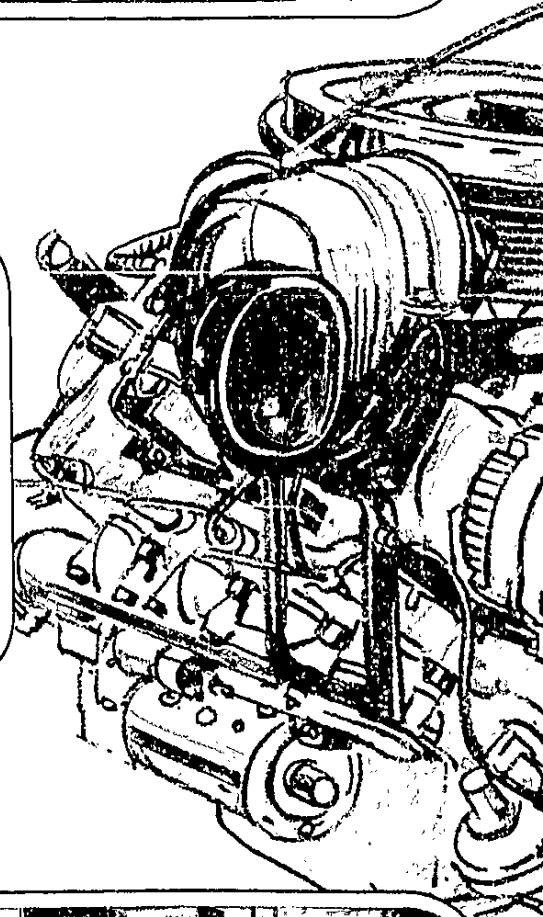
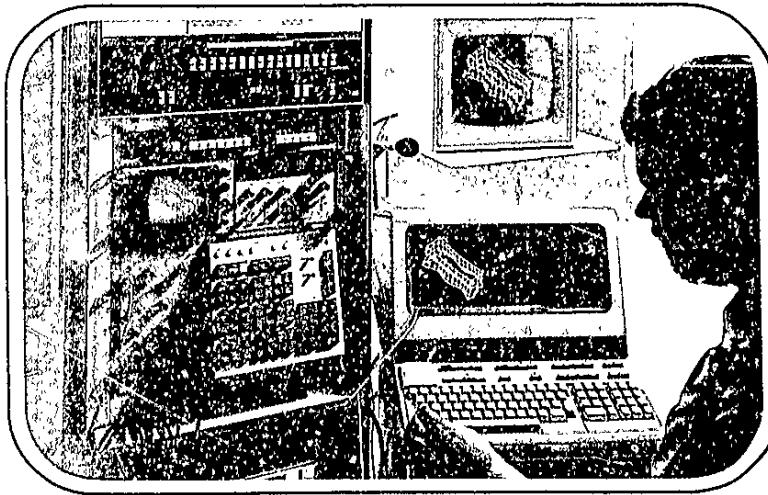
Test Shop for single cylinder engines and test rigs

# How Ricardo Engineers use computers

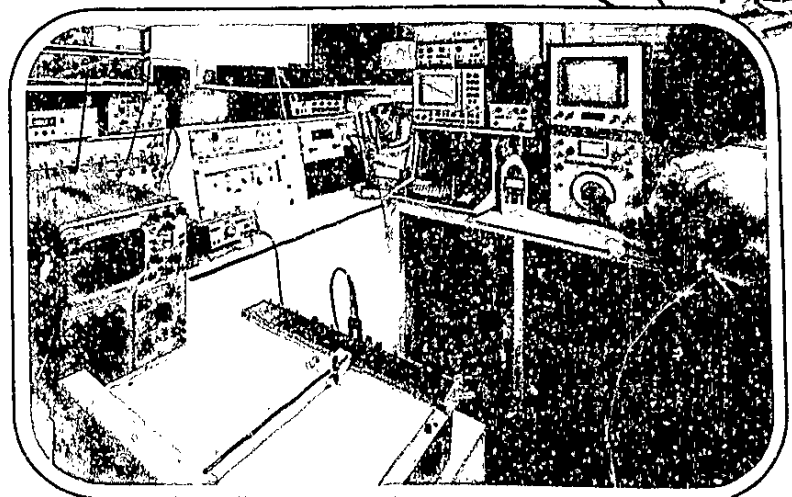


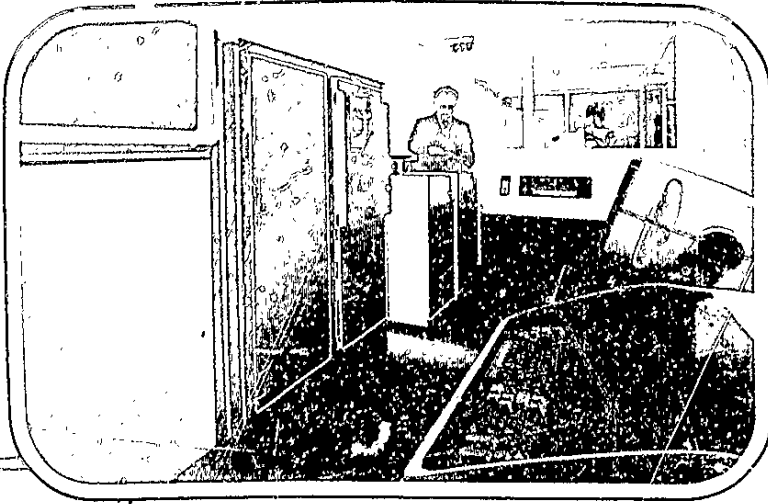
*Right*  
– One of the six VDU's  
in the McAuto computer  
aided design system

*Below*  
– Modal analysis  
applied to engine design



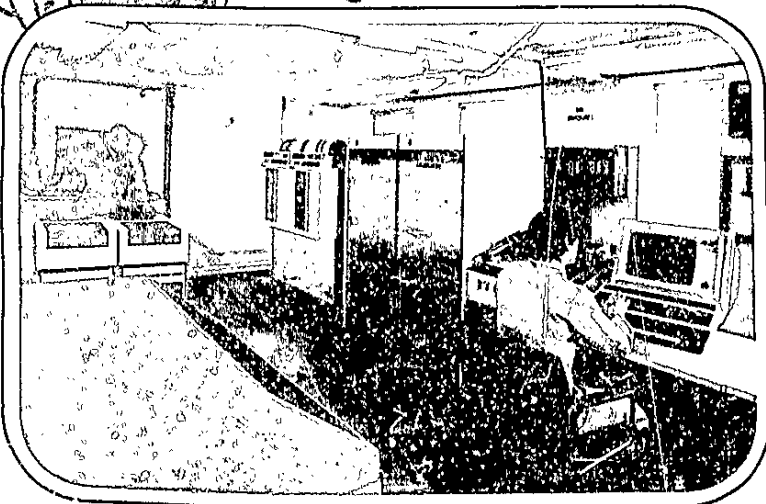
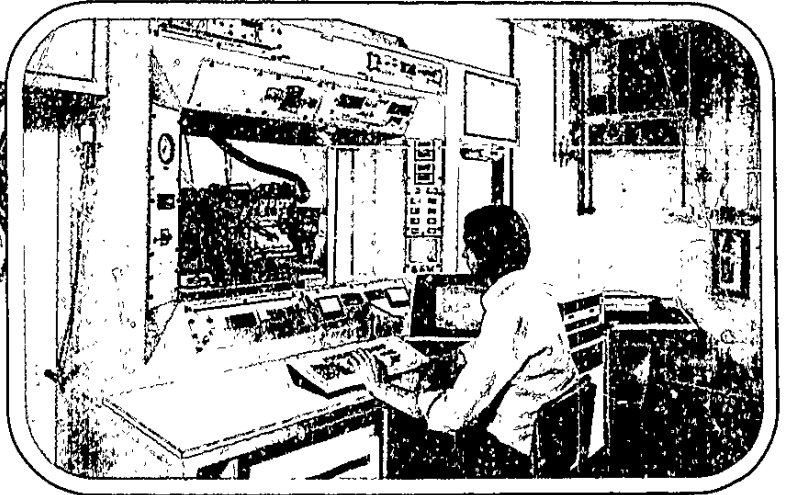
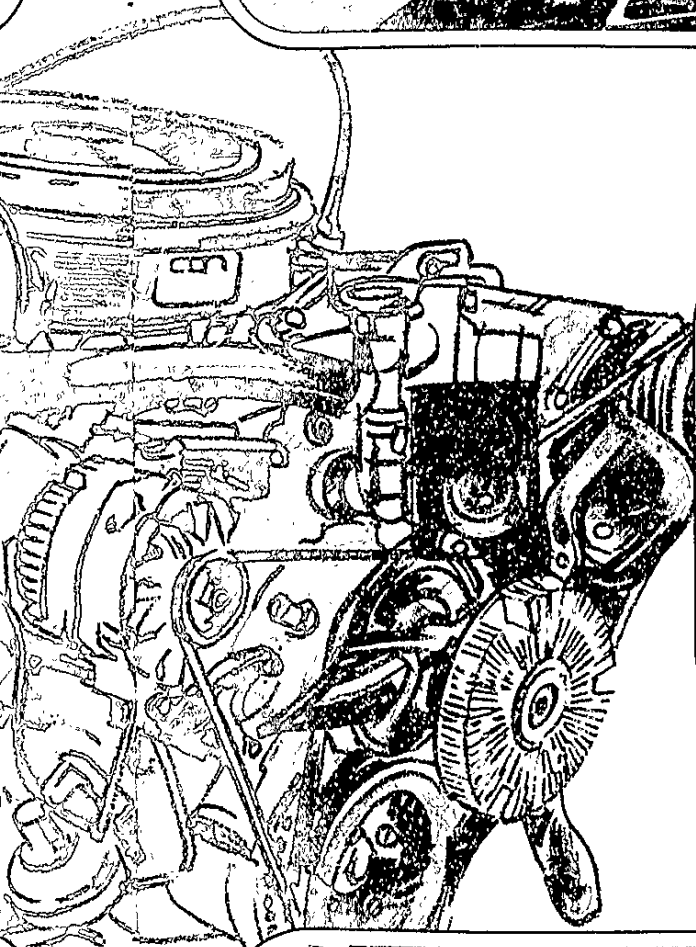
*Right*  
– Instrumentation for measurement  
and analysis of noise





*Left*  
- Data General MV8000.  
Main technical computer for  
engine performance analysis,  
finite element and general  
technical studies.

*Below*  
- Automated Test Bed for  
emission studies under  
transient operating conditions.



*Left*  
- ICL 2946 computer  
providing commercial  
and management information  
and library data storage  
and retrieval.

# Chairman's Statement continued

## Cussons

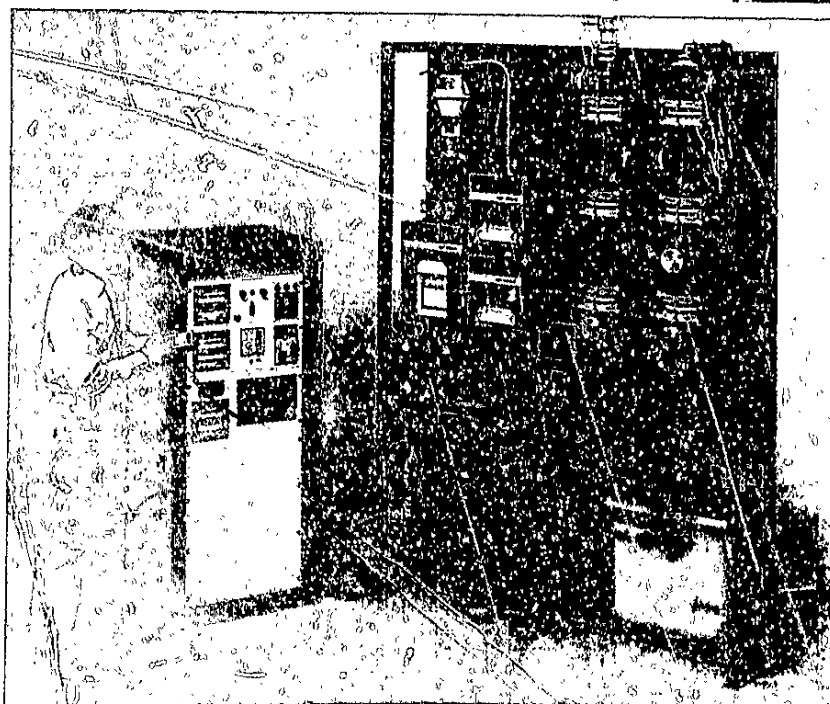
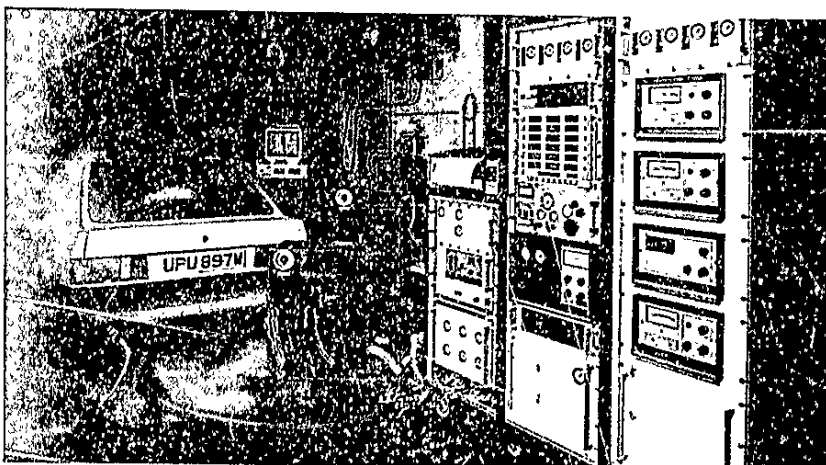
Thanks to a substantial influx of orders both on the educational and on the industrial sides, Cussons has been able to show a profit in the year just past and to carry forward into next year a more substantial order book than for some years past. It was particularly satisfactory to note the good geographical spread of the educational equipment orders, with Canada, Central America, Africa, New Zealand and Asia featuring, as well as the Middle East. Considerable interest has been shown in our new process control simulator. On the industrial side, there have been substantial

orders for the Ricardo Hydra research engine, and for instrumentation for exhaust emission studies, including our own Landascan. Interest is growing in our Compulow gravimetric fuel flow meter and in our new blow-by meter.

Despite the continuation of the recession, therefore, we feel that we can look forward with more confidence at Cussons than at any time during the past three years.

*Top*  
The first of three Cussons exhaust emission measuring systems undergoing proving tests prior to despatch to the customer

*Bottom*  
Process control simulation



## Directors and Staff

During the year Mr. C. J. Walder retired after 46 years service with the Company, latterly as Director and General Manager. As an engineer, as an ambassador for the Company, and as an administrator, Mr. Walder has served Ricardo well, and he carries the good wishes of all his colleagues into his richly deserved retirement. Also during the year, Mr. H. W. Barnes-Moss decided to reduce his commitments on health grounds, and has accordingly relinquished his executive responsibilities. I am happy to say, however, that he has agreed to serve us as a consultant and will remain on the Board. Mr. M. J. McClelland, our Chief Designer, has been elected to the Board and has assumed executive responsibility for all our design activities.

To strengthen the direction of the Company and to help me in my dual role as Chairman and Managing Director, Mr. C. C. J. French has been appointed Vice-Chairman (while remaining in addition Managing Director of Cussons) and Mr. D. Broome has been appointed Deputy Managing Director.

During the year, The Science Museum prepared a travelling exhibition featuring the life and work of our founder, Sir Harry Ricardo FRS. This Exhibition opened at our premises in the Spring, and is now travelling the country where we hope that it will be seen by many of those interested in Sir Harry's pioneering work on the internal combustion engine.

In the present economic climate, results such as those your Company has been able to report could not have been obtained without the dedicated work of all the staff. They have, as usual, risen to the occasion magnificently and I welcome this opportunity of thanking them publicly and on your behalf.

Diarmuid Downs  
Chairman and Managing Director

24th September 1983

# Report of the Directors

Your Directors have pleasure in submitting the fifty-fifth Report and Financial Statements for the year ended 30th June 1982.

## PROFITS AND DIVIDENDS

The profit for the year amounted to £1,735,000 (1981, £1,150,000). After making provision for taxation and preference dividends the profit attributable to ordinary shareholders was £1,407,000 (1981, £759,000). The Directors recommend a final dividend of 5.85p per share payable on 22nd October 1982. Together with the 3.5p per share interim dividend already paid, this makes a total for the year of 9.35p (1981, 8.5p).

After providing for the dividends the undistributed profit for the year amounts to £1,072,000 and has been added to reserves.

The consolidated revenue and expenditure account appears on page 12.

## PRINCIPAL ACTIVITIES

The principal activities of the Company are those of consulting and research engineers, patentees and licensors and those of the subsidiary companies are the manufacture of scientific educational equipment and analytical systems.

## ANALYSIS OF REVENUE

The consolidated revenue and the distribution by geographical markets were as follows:

	1982	1981
	£'000's	£'000's
Charges for work done	6,647	6,372
Consulting fees and royalties	878	734
Sales of educational equipment	1,640	1,512
Sales of analytical systems	466	340
	<u>9,631</u>	<u>8,958</u>
United Kingdom	2,771	2,682
Europe (excluding U.K.)	2,988	3,070
North America	1,773	1,570
Africa	418	144
Australasia	64	43
Latin America	37	59
Asia	1,580	1,380
	<u>9,631</u>	<u>8,958</u>

## FIXED ASSETS

The changes in fixed assets during the year are shown in note 11 on the Financial Statements.

Owing to the generally upward trend in the value of land and buildings in the last decade it is considered that the present value of these assets is in excess of original cost. Nevertheless, the Directors consider that a revaluation would be both costly and inappropriate in view of the specialised nature of the activities of the Company and its subsidiaries.

## CURRENT COST ACCOUNTS

A statement on page 20 has been drawn up to illustrate the results for the year on a current cost basis. This statement has been compiled in accordance with the Statement of Standard Accounting Practice No. 16.

The results disclosed by this statement show a profit before taxation of £1,300,000 as compared with £1,735,000 shown in the historic cost accounts.

## EMPLOYEES

The average weekly number of employees throughout the year was 502 and the aggregate remuneration paid to those employees was £3,696,000.

## EMPLOYMENT OF DISABLED PERSONS

The Company and its subsidiaries have continued the policy regarding the employment of disabled persons. Full and fair consideration is given to all applications for employment made by disabled persons having regard to their particular aptitude and abilities. During the year 10 disabled persons were employed compared to 9 in the preceding year.



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# Statement of Accounting Policies

## Accounting Convention

The financial statements have been prepared under the historical cost convention as modified by the revaluation of freehold properties.

## Basis of Consolidation

The consolidated financial statements comprise those of the parent company and of the subsidiaries made up to 30th June 1982.

## Depreciation

Depreciation of fixed assets is calculated on cost or subsequent valuation at rates estimated to write off the relevant assets by equal quarterly amounts over their expected useful lives. The annual rates currently being charged are as follows:

Buildings	2%
Plant & equipment	20% or 10%
Motor vehicles	25%
Patents	5%

## Inventories

Inventories are stated at the lower of cost and net realisable value. Cost represents all direct costs incurred in bringing inventories to their present state including an appropriate proportion of manufacturing overheads.

## Deferred Taxation

Deferred taxation is provided by the liability method at current rates of taxation on that part of the excess of accumulated capital allowances over the corresponding depreciation provisions which is anticipated to be payable within the foreseeable future. All other deferred taxation is disclosed by way of note as a contingent liability.

## Research and Development

Expenditure on research and development is written off in the year in which it is incurred.

## Leased Assets

Expenditure on leased assets is charged to the Revenue and Expenditure Account during the year.

## Foreign Currencies

Foreign currencies are converted at the rate of exchange ruling at the date of the transaction.

## Consolidated Revenue and Expenditure Account

For the year to 30th June 1982

	Notes	1982 £'000's	1981 £'000's
Revenue	1	9,631	8,908
Operating profit before interest	2	1,538	1,179
Interest	3	(197)	29
Profit before taxation		1,735	1,150
Taxation	4	325	377
Profit after taxation and before extraordinary items		1,410	773
Extraordinary items	5	—	11
Profit after extraordinary items		1,410	762
Preference dividends	6	3	3
Profit attributable to ordinary shareholders		1,407	759
Ordinary dividends	6	335	305
Profit retained	7	1,072	454
Earnings per share before extraordinary items	8	39.3p	22.7p

The statement of accounting policies on page 11 and the notes on pages 16 to 19 form part of these financial statements.

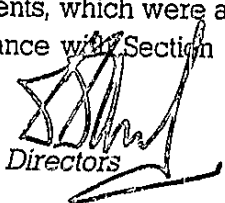
# Consolidated Balance Sheet


As at 30th June 1982

	Notes	1982 £'000's	1982 £'000's	1981 £'000's	1980 £'000's
<b>Capital employed</b>					
Ordinary capital	9	896		896	
Share premium	10	3,332		3,332	
Reserves	7	5,371		4,299	
Ordinary shareholders' funds			9,599		8,527
Preference capital	9		60		60
			<u>9,659</u>		<u>8,587</u>
<b>Employment of capital</b>					
Fixed assets	11		5,449		4,427
A.C.T. recoverable			90		77
Current assets					
Inventories	12	1,236		1,016	
Debtors		3,101		3,528	
Bank and cash balances		2,091		1,469	
		<u>6,428</u>		<u>6,013</u>	
Current liabilities					
Bank overdrafts		425		300	
Creditors		1,179		1,152	
Current taxation	4	495		299	
Dividends		209		179	
		<u>2,308</u>		<u>1,930</u>	
Net current assets			4,120		4,083
			<u>9,659</u>		<u>8,587</u>

The financial statements, which were approved by the Board of Directors on 7th September 1982, are prepared in compliance with Section 149A and Section 152A of and Schedule 8A to the Companies Act 1948.

D. Downs  
C. C. J. French

  
Directors

  
The statement of accounting policies on page 11 and the notes on pages 16 to 19 form part of these financial statements.


# Company Balance Sheet

As at 30th June 1982

	Notes	1982 £'000's	1981 £'000's	1981 £'000's	1981 £'000's
<b>Capital employed</b>					
Ordinary capital	9	896		896	
Share premium	10	3,332		3,332	
Reserves	7	4,980		3,946	
Ordinary shareholders' funds			9,208		8,174
Preference capital	9		60		60
			9,268		8,234
<b>Employment of capital</b>					
Fixed assets	11		4,895		3,869
A.C.T. recoverable			90		77
Investment in subsidiaries	15	29		29	
Inter-group indebtedness		1,040		1,125	
			1,069		1,154
<b>Current assets</b>					
Inventories	12	266		316	
Debtors		2,193		2,540	
Bank and cash balances		2,089		1,468	
		4,548		4,324	
<b>Current liabilities</b>					
Creditors		630		712	
Current taxation	4	495		299	
Dividends		209		179	
		1,334		1,190	
<b>Net current assets</b>					
			3,214		3,134
			9,268		8,234

D. Downs  
C. C. J. French

  
Directors

  
The statement of accounting policies on page 11 and the notes on pages 16 to 19 form part of these financial statements

## Source and Application of Funds

For the year to 30th June 1982

	Notes	1982 £'000's	1981 £'000's
<b>Source of funds</b>			
Profit before taxation and extraordinary items		1,735	1,150
Extraordinary items		—	11
		<u>1,735</u>	<u>1,139</u>
<b>Adjustment for item not involving the movement of funds:</b>			
Depreciation		450	385
		<u>450</u>	<u>385</u>
Funds generated from operations		2,185	1,524
Proceeds from rights issue		—	2,562
		<u>2,185</u>	<u>4,086</u>
<b>Application of funds</b>			
Expenditure on fixed assets (net of disposals)		1,472	762
Dividends paid		307	264
Taxation paid		142	49
Decrease in working capital	A	(234)	(144)
		<u>1,687</u>	<u>931</u>
Increase in net liquid funds	B	498	3,155
<b>Notes</b>			
<b>A. Decrease in working capital</b>			
Inventories		220	129
Debtors		(427)	(408)
Creditors		(27)	125
		<u>(234)</u>	<u>(144)</u>
<b>B. Increase in net liquid funds</b>			
Bank overdrafts		(125)	1,690
Bank and cash balances		623	1,465
		<u>498</u>	<u>3,155</u>

# Notes on the Financial Statements

## 1. Revenue

This consists of charges for work done, consulting fees, royalties and sales to external customers.

	1982	1981
	£'000's	£'000's
<b>2. Operating profit before interest</b>		
Profit is stated after charging:		
Depreciation	450	385
Leasing of plant	106	41
Audit fees	36	33
Directors' remuneration: Fees	6	5
Other emoluments	280	250

Directors' emoluments (excluding pension contributions) comprise:

Chairman:	£39,300	£36,579
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Number of other Directors in scale

£25,001 to £30,000	6	3
£20,001 to £25,000	—	4
£15,001 to £20,000	1	—
£10,001 to £15,000	1	—
Up to £5,000	2	2

No employees received emoluments exceeding £20,000 in 1982 or the preceding year.

## 3. Interest

	1982	1981
	£'000's	£'000's
Interest receivable	(201)	(85)
Interest on bank overdrafts	4	114
	<u>(197)</u>	<u>29</u>

## 4. Taxation

a) The amount charged for taxation comprises:  
 Corporation tax based on the profits for the year computed at the rate of 52% (1981, 52%)  
 Foreign taxation  
 Prior year adjustment

	332	371
	—	6
	(7)	—
	<u>325</u>	<u>377</u>

The Corporation Tax is at a reduced rate as a result of substantial capital expenditure. No provision has been made for taxation deferred in the current year of £537,000 (1981, £174,000) relating to timing differences which are expected to continue for the foreseeable future.

b) The amount shown in the balance sheet comprises:

	1982	1981
	£'000's	£'000's
Current taxation	304	132
Corporation Tax Payable 1.1.84	191	167
	<u>495</u>	<u>299</u>

<b>5. Extraordinary item</b>	<b>1982</b>	<b>1981</b>
	<b>£'000's</b>	<b>£'000's</b>
Goodwill arising on purchase of Wards Patents Ltd.	—	13
<b>6. Dividends</b>	<b>£'000's</b>	<b>£'000's</b>
These comprise:		
Preference dividends		
3½% plus tax credit redeemable cumulative first preference	1	1
7% plus tax credit cumulative second preference	2	2
	<u>3</u>	<u>3</u>
Ordinary dividends		
Interim 3.5p per share (1981, 3.5p per share) paid in April 1982	126	126
Proposed final of 5.85p per share (1981, 5.0p per share)	209	179
	<u>335</u>	<u>305</u>
<b>7. Reserves</b>	<b>Consolidated</b>	<b>Company</b>
	<b>£'000's</b>	<b>£'000's</b>
At 1st July 1981	4,299	3,946
Profit retained for year	1,072	1,034
	<u>5,371</u>	<u>4,980</u>

All of the above reserves are considered to be distributable. The net profit after extraordinary items dealt with in the accounts of the Company is £1,372,000 (1981, £1,033,000).

#### 8. Earnings per share

The earnings per share has been calculated on the profit after taxation and the deduction of preference dividends but before extraordinary items divided by the number of ordinary shares in issue during the year.

9. Share capital	Authorised		Issued and Fully Paid	
	1982	1981	1982	1981
	£'000's	£'000's	£'000's	£'000's
3½% plus tax credit redeemable cumulative first preference shares of £1 each (redeemable after 3 months notice at par)	20	20	20	20
7% plus tax credit cumulative second preference shares of £1 each	40	40	40	40
	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>
Ordinary shares of 25p each	1,040	1,040	896	896

<b>10. Share premium</b>	<b>1982</b>	<b>1981</b>
	<b>£'000's</b>	<b>£'000's</b>
Premium on rights issues	3,332	3,332

## Notes on the Financial Statements continued

11. Fixed assets	Freehold land & buildings £'000's	Plant equipment etc £'000's	Total £'000's
<b>Consolidated</b>			
Cost or valuation, less investment grant:			
At 1st July 1981	2,743	3,168	5,911
Additions	530	949	1,479
Disposals and abandonments	—	(23)	(23)
At 30th June 1982	<u>3,273</u>	<u>4,094</u>	<u>7,367</u>
Comprising:			
Valuation: 1961	153	—	153
1964	12	—	12
Cost	3,108	4,094	7,202
	<u>3,273</u>	<u>4,094</u>	<u>7,367</u>
Depreciation:			
Charge for the year	51	399	450
At 30th June 1982	<u>234</u>	<u>1,684</u>	<u>1,918</u>
Net book value			
At 30th June 1982	<u>3,039</u>	<u>2,410</u>	<u>5,449</u>
At 30th June 1981	<u>2,560</u>	<u>1,867</u>	<u>4,427</u>
<b>Company</b>			
Cost or valuation, less investment grant:			
At 1st July 1981	2,280	2,984	5,264
Additions	527	920	1,447
Disposals and abandonments	—	(23)	(23)
At 30th June 1982	<u>2,807</u>	<u>3,881</u>	<u>6,688</u>
Comprising:			
Valuation: 1961	153	—	153
Cost	2,654	3,881	6,535
	<u>2,807</u>	<u>3,881</u>	<u>6,688</u>
Depreciation:			
Charge for the year	42	372	414
At 30th June 1982	<u>208</u>	<u>1,585</u>	<u>1,793</u>
Net book value.			
At 30th June 1982	<u>2,599</u>	<u>2,296</u>	<u>4,895</u>
At 30th June 1981	<u>2,114</u>	<u>1,755</u>	<u>3,869</u>

Included within the above total are patents with a cost of £86,000 and a net book value of £64,000.

11. Fixed assets (continued)

	Consolidated		Company	
	1982 £'000's	1981 £'000's	1982 £'000's	1981 £'000's
Capital expenditure not provided for in the accounts.				
Committed	211	538	203	535
Authorised but not committed	1,165	443	1,165	443
	<u>1,376</u>	<u>975</u>	<u>1,368</u>	<u>968</u>

12. Inventories

	1982	1981	1982	1981
	£'000's	£'000's	£'000's	£'000's
Raw materials	607	555	202	182
Work in progress	347	314	64	134
Finished goods	282	147	--	--
	<u>1,236</u>	<u>1,016</u>	<u>266</u>	<u>316</u>

13. Contingent liabilities

	1982	1981	1982	1981
	£'000's	£'000's	£'000's	£'000's
Deferred taxation not payable in the foreseeable future:				
Deferred by capital allowances	2,545	2,006	2,405	1,872
Unrelieved taxation losses	(31)	(31)	--	--
	<u>2,514</u>	<u>1,975</u>	<u>2,405</u>	<u>1,872</u>

The Company has given an unlimited guarantee to secure the bank facilities of the subsidiary.

14. Leasing commitments

The future minimum lease payments to which there is a commitment at 30th June 1982 are as follows:

	Consolidated	Company
	£'000's	£'000's
Year to 30th June 1983	161	161
1984	149	149
1985	145	145
1986	143	143
1987	75	75

15. Subsidiary companies

The investment in the wholly owned subsidiaries G. Cussons Limited and Wards Patents Limited, both of which are incorporated in Great Britain, is all in ordinary shares at cost.

## Current Cost Financial Statements

Consolidated current cost revenue and expenditure account  
For the year to 30th June 1982

	Notes	1982 £'000's	1982 £'000's	1981 £'000's	1981 £'000's
Revenue			9,631		8,958
Profit before interest and taxation as in the historical cost accounts			1,538		1,179
Less current cost operating adjustments:					
Cost of sales	2	98		53	
Monetary working capital	2	141		130	
Interest		4		63	
Depreciation	3	196		183	
			439		429
Current cost operating profit			1,099		750
Gearing adjustment	4	—		—	
Interest		(201)		(34)	
			(201)		(34)
Current cost profit before taxation			1,300		784
Taxation			325		377
Current cost profit after taxation			975		407
Extraordinary items			—		11
Current cost profit after extraordinary items			975		396
Preference dividends			3		3
Current cost profit attributable to ordinary shareholders			972		393
Ordinary dividends			335		305
Current cost profit retained	6		637		88
Current cost earnings per share			27.1p		11.9p

Consolidated current cost balance sheet  
As at 30th June 1982

	Notes	1982 £'000's	1982 £'000's	1981 £'000's	1981 £'000's
<b>Capital employed</b>					
Ordinary capital			896		896
Share premium		3,332		3,332	
Current cost reserve	5	4,612		4,363	
Other reserves		3,669		3,032	
<b>Total reserves</b>	6		<u>11,613</u>		<u>10,727</u>
Ordinary shareholders' funds			12,509		11,623
Preference capital			60		60
			<u>12,569</u>		<u>11,683</u>
<b>Employment of capital</b>					
Fixed assets	7		8,334		7,482
A.C.T. recoverable			90		77
<b>Net current assets</b>					
Inventories		1,261		1,057	
Monetary working capital		2,048		2,636	
<b>Total working capital</b>		<u>3,309</u>		<u>3,693</u>	
Other net current assets		1,045		610	
Proposed dividends		(209)		(179)	
			<u>4,145</u>		<u>4,124</u>
			<u>12,569</u>		<u>11,683</u>

## Notes on the Current Cost Statements

### 1. Accounting basis

The statement has been prepared in accordance with the recommendations set out in the Statement of Standard Accounting Practice No. 16 issued by the Accounting Standards Committee of the accountancy bodies in the United Kingdom.

### 2. Cost of sales and monetary working capital

The cost of sales adjustment represents the difference between the historical cost of services supplied during the year and the estimated current replacement cost at the date of sale. The monetary working capital adjustment allows for the effect of price changes on the monetary working capital (including part of the overdrafts) needed to support the operating capability of the Group. Both of these adjustments have been calculated using the averaging method based on appropriate indices issued by the Department of Industry. Interest relating to that part of the overdraft included in monetary working capital has been charged in arriving at the current cost operating profit.

### 3. Depreciation

The depreciation adjustment is the difference between depreciation based on the current replacement cost of properties, plant, etc. and the depreciation charge in the historical cost accounts. The current replacement cost of properties, plant, etc. has been arrived at by use of appropriate indices issued by the Department of Industry. A re-assessment of asset lives has not yet been made since it is considered that to do so would have no significant effect on the current cost accounts.

### 4. Gearing adjustment

The gearing adjustment deals with the effect of inflation on net operating assets which have been partly financed by borrowings. Throughout the period those liquid assets which were not treated as part of monetary working capital exceeded net borrowings. Consequently, no gearing adjustment has arisen. However, these assets (cash and short-term deposits less borrowings) lost purchasing power throughout the period as a result of increases in prices. As these short-term liquid assets are being held against planned capital expenditure, the appropriate measure of lost purchasing power is a weighted average of the appropriate industrial building and plant indices from the Department of Industry. The average balance of cash and short-term deposits less borrowings held over the year was £911,000 and the loss of specific purchasing power over the year was £48,000. This loss was offset by net interest receivable on this balance (and credited to the profit and loss account) of £201,000 (after tax £96,000).

### 5. Current cost reserve

	£000's
At 1st July 1981	4,363
Surplus on revaluations	
Land and buildings	(241)
Plant, equipment, etc.	257
Stock and work in progress	22
Monetary and working capital adjustment	141
Gearing adjustment	—
At 30th June 1982	4,612

### 6. Movement on reserves

	£000's
Total reserves at 1st July 1981	10,727
Current cost profit retained for year	637
Movements on current cost reserve	249
Total reserves at 30th June 1982	11,613

### 7. Fixed assets

	Freehold land & buildings	Plant equipment etc	Total
At 30th June 1982			
Gross	£'000's 6,134	£'000's 4,700	£'000's 10,834
Depreciation	750	1,750	2,500
Net	5,384	2,950	8,334
At 30th June 1981	5,204	2,278	7,482

### 8. Financing of net operating assets

The value to the business of the net operating assets and the manner in which they were financed are set out below.

	1982	1981
	£'000's	£'000's
Fixed assets	8,334	7,482
Working capital	3,309	2,694
Net operating assets	11,643	10,176
Share capital and reserves	12,569	11,692
Proposed dividends	209	179
Total shareholders' interest	12,778	11,871
A.C.T. recoverable	(90)	(77)
Other assets (net)	(1,045)	(619)
Uncommitted funds	(1,135)	(1,087)
	11,643	10,176

## Report of the Auditors

To the members of Ricardo Consulting Engineers plc

We have audited the financial statements on pages 11 to 22 in accordance with approved Auditing Standards.

In our opinion:

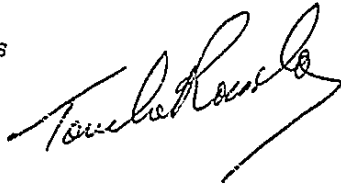
(i) the financial statements on pages 11 to 19 give a true and fair view of the state of affairs of the Company and the Group at 30th June 1982 and of the Profit and Source and Application of Funds of the Group for the year then ended and comply with the Companies Acts 1948 to 1981.

(ii) the abridged supplementary current cost statements on pages 20 to 22 have been properly prepared in accordance with the policies and methods described in notes 1 to 4 to give the information required by Statement of Standard Accounting Practice No. 16.

Touche Ross & Co.

Chartered Accountants

24th September 1982



# Five Year Performance

	1982	1981	1980	1979	1978
	£'000's	£'000's	£'000's	£'000's	£'000's
Revenue	9,631	8,958	8,607	7,242	5,621
Profits					
Profit before taxation	1,735	1,150	1,209	1,097	943
Taxation	325	377	(44)	(119)	242
Profit after taxation	1,410	773	1,253	1,216	701
Assets employed					
Fixed assets	5,449	4,427	4,051	2,677	1,436
Net current and other assets	4,210	4,160	1,521	1,995	1,128
	9,659	8,587	5,572	4,672	2,564
Capital employed					
Share capital: Ordinary	896	896	717	717	573
Preference	60	60	60	60	60
Share premium	3,332	3,332	950	950	—
Reserves	5,371	4,299	3,845	2,945	1,931
	9,659	8,587	5,572	4,672	2,564
Return on assets employed	18.0%	13.4%	21.7%	23.5%	36.8%
Earnings per ordinary share	39.3p	22.7p	42.0p	41.8p	27.3p
Ordinary dividends per share	9.35p	8.50p	7.70p	7.00p	2.92p

Note: the figures for earnings per ordinary share have been restated to take account of the rights issue in October 1980.

