

Central  
Statistical  
Office

PA326

1989

# Business Monitor

## Report on the Census of Production

Mechanical power  
transmission equipment

BRITISH LIBRARY OF POLITICAL  
& ECONOMIC SCIENCE  
4 MAR 1991

①	STATISTICS READING ROOM	42 AA 251
②	STATISTICS BACK UP	42 ( )



Business  
Statistics  
Office

A publication of the Government Statistical Service





**BUSINESS MONITORS**

**SPECIAL NOTE FOR PURCHASERS**

The Central Statistical Office, aided by industry and commerce, provides a great deal of the statistical data required by Government for monitoring the economy.

Much of this data is published in the form of Business Monitors, giving information about production, sales, employment and investment.

Full details of the range of Business Monitors are available in the form of a Business Monitor brochure, which can be obtained from the Librarian, Central Statistical Office, Government Buildings, Cardiff Road, Newport, Gwent, NP9 1XG. Telephone (0633) 812973. Telex 497121 and 497122; answer back BSONPT G.

**Standing Order Service**

Placing a standing order with HMSO Books enables a customer to receive future editions of this title and/or other titles in this series automatically as published.

This saves the time, trouble and expense of placing individual orders and avoids the problem of knowing when to do so.

For details please write to HMSO Books (PC 13A/1), Publications Centre, PO Box 276, London SW8 5DT (or telephone 071-873 8466 for standing orders).

The standing order service also enables customers to receive automatically as published all material of their choice which additionally saves extensive catalogue research. The scope and selectivity of the service has been extended by new techniques, and there are more than 3,500 classifications to choose from. A special leaflet describing the service in detail may be obtained on request.

PA326

# BUSINESS MONITOR

A publication of the Government Statistical Service

## Report on the Census of Production 1989

### Mechanical power transmission equipment

Presented by the Chancellor of the Exchequer  
to Parliament in pursuance of the Statistics of Trade Act 1947  
(10 & 11 Geo.6 Cha.39 sec 7)

**CENTRAL STATISTICAL OFFICE**  
Business Statistics Office

London: Her Majesty's Stationery Office



BUSINESS MONITORS MAKING UP THE COMPLETE CENSUS REPORT

PA1001	Introductory notes	PA362	Railway and tramway vehicles
PA111	Coal extraction and manufacture of solid fuels	PA363	Cycles and motor cycles
PA120	Coke ovens	PA364	Aerospace equipment manufacturing and repairing
PA130	Extraction of mineral oil and natural gas	PA365	Miscellaneous vehicles
PA140	Mineral oil processing	PA371	Measuring, checking and precision instruments and apparatus
PA161	Production and distribution of electricity	PA372	Medical and surgical equipment and orthopaedic appliances
PA162	Public gas supply	PA373	Optical precision instruments and photographic equipment
PA170	Water supply industry	PA374	Clocks, watches and other timing devices
PA221	Iron and steel industry	PA411	Organic oils and fats
PA222	Steel tubes	PA412	Slaughtering of animals and production of meat and by-products
PA223	Drawing, cold rolling and cold forming of steel	PA413	Preparation of milk and milk products
PA224	Non-ferrous metals industry	PA414	Processing of fruit and vegetables
PA231	Extraction of stone, clay, sand and gravel	PA415	Fish processing
PA239	Extraction of miscellaneous minerals (including salt)	PA416	Grain milling
PA241	Structural clay products	PA419	Bread, biscuits and flour confectionery
PA242	Cement, lime and plaster	PA420	Sugar and sugar by-products
PA243	Building products of concrete, cement or plaster	PA421	Ice-cream, cocoa, chocolate and sugar confectionery
PA244	Asbestos goods	PA422	Animal feeding stuffs
PA245	Working of stone and other non-metallic minerals	PA423	Starch and miscellaneous foods
PA246	Abrasive products	PA424	Spirit distilling and compounding
PA247	Glass and glassware	PA426	Wines, cider and perry
PA248	Refractory and ceramic goods	PA427	Brewing and malting
PA251	Basic industrial chemicals	PA428	Soft drinks
PA255	Paints, varnishes and printing ink	PA429	Tobacco industry
PA256	Specialised chemical products mainly for industrial and agricultural purposes	PA431	Woollen and worsted industry
PA257	Pharmaceutical products	PA432	Cotton and silk industries
PA258	Soap and toilet preparations	PA433	Throwing, texturing, etc. of continuous filament yarn
PA259	Specialised chemical products mainly for household and office use	PA434	Spinning and weaving of flax, hemp and ramie
PA260	Production of man-made fibres	PA435	Jute and polypropylene yarns and fabrics
PA311	Foundries	PA436	Hosiery and other knitted goods
PA312	Forging, pressing and stamping	PA437	Textile finishing
PA313	Bolts, nuts, etc. springs; non-precision chains; metals treatment	PA438	Carpets and other textile floorcoverings
PA314	Metal doors, windows, etc.	PA439	Miscellaneous textiles
PA316	Hand tools and finished metal goods	PA441	Leather (tanning and dressing) and fellmongery
PA320	Industrial plant and steelwork	PA442	Leather goods
PA321	Agricultural machinery and tractors	PA451	Footwear
PA322	Metal-working machine tools and engineers' tools	PA453	Clothing, hats and gloves
PA323	Textile machinery	PA455	Household textiles and other made-up textiles
PA324	Machinery for the food, chemical and related industries; process engineering contractors	PA456	Fur goods
PA325	Mining machinery, construction and mechanical handling equipment	PA461	Sawmilling, planing, etc. of wood
PA326	Mechanical power transmission equipment	PA462	Manufacture of semi-finished wood products and further processing and treatment of wood
PA327	Machinery for printing, paper, wood, leather, rubber, glass and related industries: laundry and dry cleaning machinery	PA463	Builders' carpentry and joinery
PA328	Miscellaneous machinery and mechanical equipment	PA464	Wooden containers
PA329	Ordnance, small arms and ammunition	PA465	Miscellaneous wooden articles
PA330	Manufacture of office machinery and data processing equipment	PA466	Articles of cork and plaiting materials, brushes and brooms
PA341	Insulated wires and cables	PA467	Wooden and upholstered furniture and shop and office fittings
PA342	Basic electrical equipment	PA471	Pulp, paper and board
PA343	Electrical equipment for industrial use, and batteries and accumulators	PA472	Conversion of paper and board
PA344	Telecommunication equipment, electrical measuring equipment, electronic capital goods and passive electronic components	PA475	Printing and publishing
PA345	Miscellaneous electronic equipment	PA481	Rubber products
PA346	Domestic-type electric appliances	PA483	Processing of plastics
PA347	Electric lamps and other electric lighting equipment	PA491	Jewellery and coins
PA351	Motor vehicles and their engines	PA492	Musical instruments
PA352	Motor vehicle bodies, trailers and caravans	PA493	Photographic and cinematographic processing laboratories
PA353	Motor vehicle parts	PA494	Toys and sports goods
PA361	Shipbuilding and repairing	PA495	Miscellaneous manufacturing industries
		PA500	Construction
		PA1002	Summary volume

PA326 MECHANICAL POWER TRANSMISSION EQUIPMENT

PA326

The information in this report relates to businesses classified to the Mechanical power transmission equipment industry, Group 326 in the Standard Industrial Classification Revised 1980. The industry Group covers the following Activity Heading:-

3142 Precision chains and other mechanical power transmission equipment

1. Precision chains

Manufacture of transmission and other precision chains, including transmission chains for motor vehicles and cycles.

2. Plain bearings and bushes

Manufacture of plain bearings and bushes.

3. Other mechanical power transmission equipment including gears and gear boxes

Manufacture of gears, gear boxes and geared motor units, mechanical power transmission plant, pulley wheels, camshafts, clutches, fly-wheels and crankshafts. Gears, gear boxes, clutches and engine parts for motor vehicles and wheeled tractors are classified to Groups 353 and 321 respectively.

3262 Ball, needle and roller bearings

Manufacture of ball, needle and roller bearings including those for motor vehicles.

For a full description of the 1980 classification see Standard Industrial Classification Revised 1980, obtainable from Her Majesty's Stationery Office, price £4.25.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which commence on page 5

LIST OF CONTENTS

Explanatory notes and definitions

Table 1 Output and costs, 1985-1989

Table 2 Capital expenditure, 1985-1989

Table 3 Stocks and work in progress, 1985-1989

Table 4 Employment, labour costs, output, net capital expenditure and stocks and work in progress by size of total employment, 1989

Table 5 Percentage analysis of twelve-month periods covered by returns received for the 1989 Census by number of returns and total employment

Table 6 Operating ratios, 1985-1989

Table 7 Regional distribution of employment, net capital expenditure, net output and gross value added at factor cost, 1989

Table 8 Output and costs by activity, heading, 1989

Table 9 Capital expenditure by activity heading, 1989

Table 10 Stocks and work in progress by activity heading, 1989

Table 11 Operating ratios by activity heading, 1989

Page

5-7

8

9

9

10-11

12

12

13

14

15

15

16



BUSINESS MONITOR MAKING UP THE COMPLETE CENSUS REPORT

The information in this report relates to businesses classified in the mechanical power transmission equipment industry. Group 326 in the Standard Industrial Classification Revised 1980. The industry covers the following activities:

PA101	Production of mechanical power transmission equipment
PA111	Production of gears and gear boxes
PA120	Production of shafts and shaft-hubs
PA140	Production of bearings and rollers
PA151	Production of pulleys and sheaves
PA162	Production of belts and bands
PA170	Production of chains and chain drives
PA223	Production of clutches and clutch shafts
PA224	Production of brakes and brake shafts
PA231	Production of couplings and coupling shafts
PA241	Production of gears and gear shafts
PA242	Production of gear boxes
PA243	Production of gear shafts
PA244	Production of gear wheels
PA245	Production of gear shaft-hubs
PA246	Production of gear shaft-hubs
PA247	Production of gear shaft-hubs
PA248	Production of gear shaft-hubs
PA251	Production of gears and gear shafts
PA252	Production of gears and gear shafts
PA253	Production of gears and gear shafts
PA254	Production of gears and gear shafts
PA255	Production of gears and gear shafts
PA256	Production of gears and gear shafts
PA257	Production of gears and gear shafts
PA258	Production of gears and gear shafts
PA259	Production of gears and gear shafts
PA260	Production of gears and gear shafts
PA261	Production of gears and gear shafts
PA262	Production of gears and gear shafts
PA263	Production of gears and gear shafts
PA264	Production of gears and gear shafts
PA265	Production of gears and gear shafts
PA266	Production of gears and gear shafts
PA267	Production of gears and gear shafts
PA268	Production of gears and gear shafts
PA269	Production of gears and gear shafts
PA270	Production of gears and gear shafts
PA271	Production of gears and gear shafts
PA272	Production of gears and gear shafts
PA273	Production of gears and gear shafts
PA274	Production of gears and gear shafts
PA275	Production of gears and gear shafts
PA276	Production of gears and gear shafts
PA277	Production of gears and gear shafts
PA278	Production of gears and gear shafts
PA279	Production of gears and gear shafts
PA280	Production of gears and gear shafts
PA281	Production of gears and gear shafts
PA282	Production of gears and gear shafts
PA283	Production of gears and gear shafts
PA284	Production of gears and gear shafts
PA285	Production of gears and gear shafts
PA286	Production of gears and gear shafts
PA287	Production of gears and gear shafts
PA288	Production of gears and gear shafts
PA289	Production of gears and gear shafts
PA290	Production of gears and gear shafts
PA291	Production of gears and gear shafts
PA292	Production of gears and gear shafts
PA293	Production of gears and gear shafts
PA294	Production of gears and gear shafts
PA295	Production of gears and gear shafts
PA296	Production of gears and gear shafts
PA297	Production of gears and gear shafts
PA298	Production of gears and gear shafts
PA299	Production of gears and gear shafts
PA300	Production of gears and gear shafts
PA301	Production of gears and gear shafts
PA302	Production of gears and gear shafts
PA303	Production of gears and gear shafts
PA304	Production of gears and gear shafts
PA305	Production of gears and gear shafts
PA306	Production of gears and gear shafts
PA307	Production of gears and gear shafts
PA308	Production of gears and gear shafts
PA309	Production of gears and gear shafts
PA310	Production of gears and gear shafts
PA311	Production of gears and gear shafts
PA312	Production of gears and gear shafts
PA313	Production of gears and gear shafts
PA314	Production of gears and gear shafts
PA315	Production of gears and gear shafts
PA316	Production of gears and gear shafts
PA317	Production of gears and gear shafts
PA318	Production of gears and gear shafts
PA319	Production of gears and gear shafts
PA320	Production of gears and gear shafts
PA321	Production of gears and gear shafts
PA322	Production of gears and gear shafts
PA323	Production of gears and gear shafts
PA324	Production of gears and gear shafts
PA325	Production of gears and gear shafts
PA326	Production of gears and gear shafts
PA327	Production of gears and gear shafts
PA328	Production of gears and gear shafts
PA329	Production of gears and gear shafts
PA330	Production of gears and gear shafts
PA331	Production of gears and gear shafts
PA332	Production of gears and gear shafts
PA333	Production of gears and gear shafts
PA334	Production of gears and gear shafts
PA335	Production of gears and gear shafts
PA336	Production of gears and gear shafts
PA337	Production of gears and gear shafts
PA338	Production of gears and gear shafts
PA339	Production of gears and gear shafts
PA340	Production of gears and gear shafts
PA341	Production of gears and gear shafts
PA342	Production of gears and gear shafts
PA343	Production of gears and gear shafts
PA344	Production of gears and gear shafts
PA345	Production of gears and gear shafts
PA346	Production of gears and gear shafts
PA347	Production of gears and gear shafts
PA348	Production of gears and gear shafts
PA349	Production of gears and gear shafts
PA350	Production of gears and gear shafts
PA351	Production of gears and gear shafts
PA352	Production of gears and gear shafts
PA353	Production of gears and gear shafts
PA354	Production of gears and gear shafts
PA355	Production of gears and gear shafts
PA356	Production of gears and gear shafts
PA357	Production of gears and gear shafts
PA358	Production of gears and gear shafts
PA359	Production of gears and gear shafts
PA360	Production of gears and gear shafts
PA361	Production of gears and gear shafts
PA362	Production of gears and gear shafts
PA363	Production of gears and gear shafts
PA364	Production of gears and gear shafts
PA365	Production of gears and gear shafts
PA366	Production of gears and gear shafts
PA367	Production of gears and gear shafts
PA368	Production of gears and gear shafts
PA369	Production of gears and gear shafts
PA370	Production of gears and gear shafts
PA371	Production of gears and gear shafts
PA372	Production of gears and gear shafts
PA373	Production of gears and gear shafts
PA374	Production of gears and gear shafts
PA375	Production of gears and gear shafts
PA376	Production of gears and gear shafts
PA377	Production of gears and gear shafts
PA378	Production of gears and gear shafts
PA379	Production of gears and gear shafts
PA380	Production of gears and gear shafts
PA381	Production of gears and gear shafts
PA382	Production of gears and gear shafts
PA383	Production of gears and gear shafts
PA384	Production of gears and gear shafts
PA385	Production of gears and gear shafts
PA386	Production of gears and gear shafts
PA387	Production of gears and gear shafts
PA388	Production of gears and gear shafts
PA389	Production of gears and gear shafts
PA390	Production of gears and gear shafts
PA391	Production of gears and gear shafts
PA392	Production of gears and gear shafts
PA393	Production of gears and gear shafts
PA394	Production of gears and gear shafts
PA395	Production of gears and gear shafts
PA396	Production of gears and gear shafts
PA397	Production of gears and gear shafts
PA398	Production of gears and gear shafts
PA399	Production of gears and gear shafts
PA400	Production of gears and gear shafts

EXPLANATORY NOTES AND DEFINITIONS

INTRODUCTION

1. These notes give basic information to help with the interpretation of tables in this Industry Report. More general information about the Census is given in a separate Business Monitor - Report on the Census of Production, Introductory Notes (PA 1001).

2. Since 1980, Censuses have been conducted on the Standard Industrial Classification Revised 1980 (SIC(80)). The Standard Industrial Classification exists to promote uniformity and comparability in the official statistics of the United Kingdom. The SIC(80) is the result of an attempt to align the United Kingdom classification with the General Industrial Classification of Economic Activities within the European Communities (NACE). It is based on activity rather than commodities produced. A full description of SIC(80) is given in Standard Industrial Classification Revised 1980, obtainable from Her Majesty's Stationery Office, price £4.25.

REPORTING UNIT

3. From the earliest censuses of production until that for 1986 the reporting unit to the census was the establishment. This was defined as the smallest unit which could provide the full range of data required for an economic census. Establishments were asked, where possible, to exclude from their returns to the census any non-production activity.

4. In 1987, for a number of administrative and statistical reasons, a new system of company-based reporting was introduced. Under the new system the reporting unit to the census is, generally, the company, but there are some exceptions. These arise, for example, for large mixed activity companies which are asked to make separate returns to the census for each of their production activities on an establishment basis. Throughout this monitor this mixture of reporting units are referred to as "businesses". These businesses are no longer asked to exclude non-production activities.

5. In practice, since most businesses, both before and after the change, reported for the company as a whole, little difference to the main economic series has resulted from the change.

6. For most businesses, the returned data are appropriate to a single activity heading of SIC(80) and fall within a single geographical region. Where information covers a mixture of activities, the business is classified according to the main activity. Where the business operates at a number of different addresses then, in order to enable regional data to be compiled, separate information on employment and capital expenditure is sought for each address.

THE REGISTER

7. A register of businesses throughout the United Kingdom is held on the BSO computer and provides the basis for BSO inquiries. For each business the register contains identification particulars and information about its eligibility for inclusion in an inquiry, its relationship with other businesses in common ownership, its industrial classification, the nationality of its parent and location indicators for regional analyses. Regional and size analyses of manufacturing units are published in Business Monitor PA1003 - Size analyses of United Kingdom businesses. During 1984, for production inquiries, the BSO moved to an updated register which makes fuller use of information obtained from HM Customs and Excise VAT records.

8. The Annual Census and other BSO inquiries provide a major source of information for checking the register and updating employment data. Where businesses do not make returns to these inquiries, estimates of employment are imputed from VAT turnover. For businesses which have an imputed employment of 11 or more, the estimates are checked by means of register proving forms. For businesses on the register making returns to the Quarterly Sales Inquiry, industrial classification is reviewed annually and is derived from an analysis of their commodity sales. For other businesses the classification is obtained either from VAT sources or from the register proving forms. Estimates of employment made by the BSO and the Department of Employment differ because they are derived from two separate inquiries and use different procedures and employment definitions.

COVERAGE

9. The Census covers United Kingdom businesses engaged in industrial production, ie mining and quarrying, manufacturing, construction, and gas, electricity and water supply industries (Divisions 1 to 5 of SIC(80)). Businesses in the Channel Islands and the Isle of Man are excluded.

10. Under the sampling arrangements agreed for the 1989 Census, forms were despatched to all establishments with 20 or more employed except for those in the 20 to 49 employment size band located in England where, in general a sample of 1 in 2 was taken. For industries where there were few units in the sample sizeband or where response in earlier years was poor, it was necessary to increase the sample. About 23,300 forms were despatched in the United Kingdom for the 1989 Census.

PERIOD COVERED

11. Businesses were asked to make returns for the calendar year 1989 but, where this was not possible, returns for business years ending between 6 April 1989 and 5 April 1990 were accepted. Returns covering fewer than twelve months were accepted for businesses which had started or ceased trading during the year.

ESTIMATION

12. All published Census results include estimates for non-responders, unsatisfactory returns and businesses not selected for the Census. Estimates are also made for items not covered in the shorter form sent to smaller businesses.

13. Within employment size groups in each industry, the "average per head" is calculated for each census variable by dividing the total returns value for each variable by the total returned employment. This value is multiplied by the employment thought to exist in each non-responding or non-selected business to yield an estimated value for that business. Estimates for items not collected on the shorter form are made in a similar way using returned employment.

14. The accuracy of the totals produced by adding together estimates and returned data is mainly dependent on the level of response. The extent to which businesses making satisfactory returns account for the total employment of any industry is shown as a percentage in footnote (a) to table 1. Thus the accuracy of the data published in an Industry Report where 95 per cent of the employment in the industry is covered by the returns made will, in general, be better than that in an Industry Report where the coverage is only 70 per cent.

15. Additionally, the extent to which individual headings in an Industry Report are related to employment should be taken into account in assessing the accuracy of estimated data. Thus an estimate of total earnings which bears a close relationship to total employment is likely to be more accurate than an estimate of capital expenditure where the relationship to employment is not so clearly marked.

SUPPRESSION OF INFORMATION RELATING TO INDIVIDUAL UNDERTAKINGS

16. Sub-section 9(5)(b) of the Statistics of Trade Act 1947 states that:

"The following provisions shall have effect with respect to any report, summary or other communication to the public of information obtained under the foregoing provisions of this Act -

in compiling any such report, summary or communication the competent authority shall so arrange it as to prevent any particulars published therein from being identified as being particulars relating to any individual person or undertaking except with the previous consent in writing of that person or the person carrying on that undertaking, as the case may be; but this provision shall not prevent the disclosure of the total quantity or value of any articles produced, sold or delivered; so, however, that before disclosing any such total the competent authority shall have regard to any representations made to them by any person who alleges that the disclosure thereof would enable particulars relating to him or to an undertaking carried on by him to be deduced from the total disclosed."



17. Figures which would be likely to disclose particulars relating to an individual undertaking are not published unless the contributor has given written consent for their publication.

#### CHANGES MADE FOR 1989

18. The 1989 Census was a benchmark one with a larger number of businesses receiving inquiry forms than had been the case with the previous 4 Censuses. Additional questions, for larger businesses only, asked for information on road transport costs and postal and telecommunications costs. The questions relating to computer costs included in the 1988 Census, were discontinued, but those relating to the cost of assets leased under the finance leasing arrangements were retained.

#### SYMBOLS USED

19. The following symbols are used throughout the PA series of Business Monitors:

- .. not available
- nil or less than half the final digit shown
- \* information suppressed to avoid disclosure
- R revised

#### ROUNDING OF FIGURES

20. Figures in the tables have been rounded to the nearest final digit where necessary and, in these instances, the sum of the constituent items may not always agree exactly with the total shown.

#### EXPLANATION OF TERMS USED IN THE CENSUS REPORT

21. The notes and definitions given in this section are based on the instructions given to respondents as to the way in which returns were to be completed.

#### CAPITAL EXPENDITURE

22. This represents the value charged to capital account together with any other amounts which ranked as capital items for taxation purposes during the year to which each return related. From 1988 contributors were asked to include the value of assets acquired as lessees under finance leasing arrangements. The value is inclusive of any amounts received or expected to be received in grants and/or allowances from government sources, statutory bodies or local authorities. Capital expenditure during the year in respect of production units where production had not started before the end of the year and the value of CAPITAL GOODS PRODUCED FOR USE WITHIN THE BUSINESS by its own staff are included. The value of any assets acquired in taking over an existing business is excluded. The figures include non-deductible VAT but exclude deductible VAT. No allowance is made for depreciation, amortisation or obsolescence.

##### a. on LAND AND EXISTING BUILDINGS

23. This represents the value of freeholds and the value or premium payable or receivable for leaseholds acquired or disposed of. The figures for acquisitions include architects' and surveyors' fees, legal fees, stamp duties, agents' commissions and Land Registry fees. The figures for disposals are net of any such professional fees payable.

##### b. on NEW BUILDING WORK

24. This represents the value of new building and other constructional work such as the extension and reconstruction of old buildings, and the value of any newly constructed buildings acquired. The figures include architects' and surveyors' fees, legal fees, stamp duties, agents' commissions and Land Registry fees.

##### c. on PLANT AND MACHINERY, VEHICLES

25. This represents the value of new and second-hand plant and machinery and vehicles acquired or disposed of. The figures for acquisitions are net of any discounts received but include the cost of transport and installation and Customs and Excise car tax. The figures for disposals exclude amounts written off for capital assets which are scrapped.

#### CAPITAL GOODS PRODUCED FOR USE WITHIN THE BUSINESS

26. This represents the value of all work of a capital nature carried out during the year by the staff of, and for use in, the businesses covered by the returns.

#### COST OF INDUSTRIAL SERVICES RECEIVED

27. This includes amounts payable to other organisations for work done on materials supplied by the business completing the return, for repairs and maintenance including those in respect of rented buildings, and for contracts which have been sublet. Direct payments to outworkers and amounts charged to capital account are excluded.

#### COST OF NON-INDUSTRIAL SERVICES RECEIVED

28. Up to 1987 contributors were asked to include annual payments for assets acquired on a finance leasing basis. From 1988 they were asked to include the total value of such assets as capital expenditure during the year in which they were acquired. The cost of non-industrial services received includes commercial insurance premiums, bank charges and amounts payable to other organisations for the hire of vehicles, plant and machinery, for the rent of industrial and commercial buildings, for the services of accountants, auditors, agents, solicitors and surveyors other than in connection with the acquisition or disposal of capital assets, for postal and telecommunications services, for carriage by all forms of transport within the United Kingdom, for advertising, market research etc. for the right to use patents, trade marks, copyrights etc. for manufacturing and quarrying rights and technical know-how. Interest payments and amounts payable for sea and air freight on goods exported and on materials and fuel imported are excluded.

#### EMPLOYERS' NATIONAL INSURANCE CONTRIBUTIONS ETC.

29. This includes employers' national insurance contributions under the Social Security Pensions Act 1975, commercial insurance premiums for policies providing pensions, superannuation or other retirement benefits, sickness benefits, personal accident benefits, disability benefits or death benefits for employees, including former employees, or their dependants. Also included are contributions to canteens, social centres, children's and holiday homes etc. and the cost of supplying luncheon vouchers.

#### EMPLOYMENT

30. This is the average number of ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES and OPERATIVES on the payroll and the number of WORKING PROPRIETORS employed during the year of return. Full-time and part-time employees are included but outworkers (ie people who worked in their own homes on materials supplied by the business) and casual employees such as jobbers are excluded. The average number of employees returned by individual businesses may have been calculated by, for example, the average of the number of employees on the payroll for the last week of each calendar month.

##### a. ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES

31. This includes directors who received a definite wage, salary or commission, managers, foremen, draughtsmen, editorial and advertising staff, travellers, all office employees and research and design employees except operatives.

##### b. OPERATIVES

32. This includes all manual wage earners including operatives in power stations, operatives engaged in outside work of erecting, fitting etc, inspectors, maintenance workers and cleaners. Staff engaged in transport (including roundsmen) and employed in warehouses, stores, shops and canteen are included.

##### c. WORKING PROPRIETORS

33. These are people who are regarded as self-employed for national insurance purposes, members of their families who worked in the business without receiving a definite wage or salary for at least half the normal working hours and directors who worked in the business but did

not receive a definite wage, salary or commission. Part-time Directors paid by fee only and directors who received a definite wage, salary or commission are excluded.

#### ENTERPRISE

34. This is defined as one or more businesses under common ownership or control.

#### GROSS OUTPUT

35. This is calculated by adjusting the value of TOTAL SALES AND WORK DONE by the changes during the year of WORK IN PROGRESS and GOODS ON HAND FOR SALE.

#### GROSS VALUE ADDED AT FACTOR COST

36. This is calculated by deducting from NET OUTPUT the COST OF NON-INDUSTRIAL SERVICES RECEIVED, RATES and the cost of LICENSING OF MOTOR VEHICLES. This estimate of gross value added approaches more closely than NET OUTPUT the definition of net output or value added in national accounts statistics.

#### GROSS VALUE ADDED AT FACTOR COST PER HEAD

37. This is calculated by dividing GROSS VALUE ADDED AT FACTOR COST by total EMPLOYMENT.

#### NET CAPITAL EXPENDITURE

38. This is calculated by adding to the value of NEW BUILDING WORK acquisitions less disposals of LAND AND EXISTING BUILDINGS, VEHICLES and PLANT AND MACHINERY.

#### NET OUTPUT

39. This is calculated by deducting from GROSS OUTPUT the cost of PURCHASES OF MATERIALS FOR USE IN PRODUCTION AND PACKAGING AND FUEL and PURCHASES OF GOODS FOR MERCHANTING OR FACTORING, the COST OF INDUSTRIAL SERVICES RECEIVED and is adjusted for net duties and levies etc. where applicable. Purchases are adjusted for changes during the year of STOCKS OF MATERIALS, STORES AND FUEL.

#### NET OUTPUT PER HEAD

40. This is calculated by dividing NET OUTPUT by total EMPLOYMENT.

#### NON-INDUSTRIAL SERVICES RENDERED

41. This includes amounts charged for the hire of vehicles, plant and machinery, for the rent of industrial and commercial buildings, for the right to use patents, trade marks, copyrights etc. for manufacturing and quarrying rights, for technical know-how and for the provision of transport to other organisations. It also includes revenue from staff facilities such as canteens.

#### OPERATING RATIOS

42. These ratios are calculated using industry totals, ie including the estimates for businesses not responding to or not selected for the Census. Respondents are able to compare the ratios for their own businesses with those for the industry as a whole.

#### PURCHASES OF MATERIALS FOR USE IN PRODUCTION, AND PACKAGING AND FUEL. PURCHASES OF GOODS FOR MERCHANTING OR FACTORING

43. These include the cost of raw materials, components, semi-manufactured goods and workshop materials, replacement parts and consumable tools not charged to capital account, packaging materials of all types, stationery and printed matter, fuel, electricity and water, materials of all types used by the business or given out to others, for the production of machinery or other capital items used in the business, and materials used when working on goods supplied by customers. The figures exclude VAT, purchases of machinery and plant, which are included in CAPITAL EXPENDITURE, and amounts payable to transport firms or credited to the business's own transport departments for delivery of materials. The figures are net of the value of goods or packaging materials returned to suppliers and trade discounts receivable. Materials purchased duty-paid are included at their duty-paid value less drawbacks, rebates etc. Imported goods are included at their full delivered

cost. If the transport from docks or airport of imported goods is not included in the cost of goods purchased, the cost is entered at cif plus duty, if applicable. Transfers of goods from other departments of the business not covered by the return are included at the estimated selling value recorded by the other departments.

#### REMUNERATION PAID TO OUTWORKERS

44. This represents amounts paid to outworkers, ie people who do work in their own homes generally on a piece-work basis, whose names appear on the payroll. Amounts paid to outworkers by subcontractors are included in the COST OF INDUSTRIAL SERVICES RECEIVED. Estimates are not made for remuneration of outworkers for businesses not completing Census returns.

#### SALES OF GOODS PRODUCED

45. This represents sales of goods during the year, whether or not they were produced in the year of the return. It also includes sales of goods made from materials given out to other firms or to outworkers and sales of waste products and residues. The value of sales is the 'net selling value', ie the amount charged to customers whether values 'ex-works' or 'delivered' less VAT, trade discounts, agents' commissions etc and allowances on returned goods. Where products attract Excise duty, the value includes duty if the goods are sold 'duty-paid', but excludes it if they are sold in bond or exported. The cost of packaging materials less allowances for returnable containers is included. Sales of fixed assets and exceptional receipts are excluded. Transfers of goods produced by a business to departments not covered by the return (including other businesses in the same enterprise group) are treated as sales, valued as if sold to an independent purchaser.

#### STOCKS

46. This represents the value of goods on hand for sale, including goods for merchanting or factoring and of materials, stores and fuel held by businesses, whether held in the United Kingdom or abroad. Values include any duty payable but exclude VAT.

#### WAGES AND SALARIES

47. This represents amounts paid during the year to ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES and to OPERATIVES. All overtime payments, bonuses, commissions, holiday pay and redundancy payments, less any amounts reimbursed for this purpose from government sources, are included. No deduction is made for income tax or employees' national insurance contributions etc. Payments to WORKING PROPRIETORS, payments in kind, travelling expenses, lodging allowances etc. and EMPLOYERS' NATIONAL INSURANCE CONTRIBUTIONS ETC. are excluded.

#### WORK DONE AND INDUSTRIAL SERVICES RENDERED

48. This includes amounts charged for work carried out including that done by sub-contractors on customers' materials and amounts charged for materials supplied in the course of such work. Industrial services such as repairs and maintenance, installation work and technical research and studies rendered to other organisations is also included. For certain industries this heading covers a wide variety of activities, for example, butter packed on commission in the food industries, making up of garments, fur dressing and textile finishing in the textile industries, and preparatory work on typesetting, block making and binding in the printing and publishing industries. Work done is an important part of the activities of the electrical machinery and heavy engineering industries, and includes erection, installation and repair and jobbing work.

#### WORK IN PROGRESS

49. This represents materials which have been partially processed and are awaiting further processing before being sold or transferred. Progress payments made to sub-contractors are excluded and progress payments received from other organisations are not deducted.







TABLE 4

Employment, labour costs, output, net capital expenditure and stocks and work in progress by size of total employment, 1989

All United Kingdom businesses classified to the industry (a)

Size group	Busin- esses	Enter- prises (b)	Employment			Wages and salaries (c)			
			Total including working proprietors	Opera- tives	Admini- strative,tech- nical and clerical	Operatives		Administrative, technical and clerical	
						Total	per head	Total	per head
Number	Number	Thousand	Thousand	Thousand	£ million	£	£ million	£	
1-9	2,553	2,552	6.8						
10-19	283	283	4.1						
20-49	197	196	6.3	12.4	5.3	131.5	10,630	71.0	
50-99	30	30	1.9						
100-199	26	26	3.7	2.6	1.1	27.0	10,561	14.9	
200-299	9	7	2.3	1.4	0.8	14.4	9,989	10.3	
300-399	3	3	1.0	0.7	0.3	8.8	12,140	4.5	
400-499	5	5	2.2	1.4	0.7	14.7	10,239	9.1	
500-999	3	3	2.2	1.7	0.5	18.6	11,264	7.3	
1,000-1,499	3	3	3.6	2.5	1.1	31.0	12,296	15.9	
1,500-Plus	3	3	6.4	4.4	2.1	47.6	10,949	25.8	
<b>Total</b>	<b>3,115</b>	<b>3,094</b>	<b>40.5</b>	<b>27.1</b>	<b>11.9</b>	<b>293.7</b>	<b>10,855</b>	<b>158.8</b>	<b>13,318</b>

(a) Businesses employing fewer than 20 persons are not required to complete census returns. Because of this, data for these businesses should be regarded merely as the best estimates available and used with caution.

(b) The count of enterprises shown in each row represents the number of enterprises, irrespective of size, owning the businesses shown in each size group. Because an enterprise may own businesses in more than one size group, the sum of individual enterprise counts may exceed the total for the industry.

(c) The cost of employers' contributions to the national insurance, pensions and welfare schemes and the running costs of canteens are excluded from the table but were estimated for the industry at £58.9 million. The remuneration of outworkers on returns received - also excluded from the table - was £171 thousand.

(d) Net capital expenditure includes the value of assets acquired under finance leasing arrangements - see Table 2.

(e) Gross value added data relate to businesses employing 1-199.

TABLE 5

Percentage analysis of twelve-month periods covered by returns received for the 1988 Census

Total sales and work done	Gross output	Net output	Gross value added at factor cost		Net capital expenditure (d)	Total stocks and work in progress at end of year	
			Total	per head			
							£ million
683.7	688.7	408.0	21,246	(e)	45.5	105.3	
141.1	142.4	80.0	21,749	417.7(e)	18,320(e)	13.4	
82.5	83.5	48.2	21,068	42.1	18,418	9.5	
45.6	44.1	25.0	24,554	22.0	21,654	5.3	
88.2	90.6	49.0	22,530	41.8	19,204	5.4	
115.5	111.0	50.9	23,394	45.1	20,723	25.8	
202.1	202.0	91.1	25,360	75.9	21,113	-2.4	
235.3	236.5	126.1	19,658	113.6	17,696	8.4	
<b>1,594.0</b>	<b>1,598.8</b>	<b>878.3</b>	<b>21,663</b>	<b>758.2</b>	<b>18,699</b>	<b>111.0</b>	<b>286.6</b>

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

(b) Net output per head is based on the average number of employees during the period.

(c) Gross value added per head is based on the average number of employees during the period.

(d) Net capital expenditure per head is based on the average number of employees during the period.

(e) Net capital expenditure as a percentage of gross value added.



TABLE 5

PA326

Percentage analysis of twelve-month periods covered by returns received for the 1989 Census by number of returns and total employment

Accounting year ended	Percentage of total returns received	Percentage of total employment
1989		
April 6-30	4.7	1.1
May	2.7	0.6
June	7.3	3.4
July	1.3	0.3
August	6.0	5.3
September	4.7	14.4
October	3.3	7.4
November	2.7	2.4
December	38.0	50.7
1990		
January	2.7	0.8
February	4.0	1.3
1 March - 5 April	22.7	12.4

TABLE 6

Operating ratios, 1985-1989

All United Kingdom businesses classified to the industry

	Unit	1985	1986	1987	1988	1989
Gross output per head	£	28,033	28,523	31,376	33,726	39,430
Net output per head	£	15,261	16,161	16,921	18,397	21,663
Gross value added per head	£	12,825	13,496	14,113	15,965	18,699
Gross value added as a percentage of gross output	%	46	47	45	47	47
Ratio of gross output to stocks		4.2	4.4	4.7	5.2	5.6
Wages and salaries as a percentage of gross value added	%	64	66	66	62	60
Ratio of operatives to administrative, technical and clerical employees		2.1	2.2	2.2	2.3	2.3
Wages and salaries per operative	£	8,019	8,602	8,956	9,582	10,855
Wages and salaries per administrative, technical and clerical employee	£	9,415	10,338	11,100	11,807	13,318
Net capital expenditure per head (a)	£	1,481	1,491	1,353	1,852	2,737
Net capital expenditure as a percentage of gross value added (a)	%	12	11	10	12	15

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

TABLE 7

PA326

Regional distribution of employment, net capital expenditure, net output and gross value added at factor cost, 1989  
All United Kingdom businesses classified to the industry

Area	Total employment (a)		Net capital expenditure (b)		Net output (c)		Gross value added at factor cost (c)	
	Thousand	per cent of United Kingdom	£ million	per cent of United Kingdom	£ million	per cent of United Kingdom	£ million	per cent of United Kingdom
Standard regions of England								
North	2.3	5.7	*	*	60.1	6.8	55.3	7.3
Yorkshire and Humberside	5.4	13.2	17.6	15.9	112.3	12.8	97.2	12.8
East Midlands	6.9	17.0	13.5	12.2	138.3	15.7	122.3	16.1
East Anglia	1.2	3.0	*	*	25.6	2.9	22.2	2.9
South East	8.5	21.1	9.7	8.8	195.0	22.2	163.1	21.5
South West	3.0	7.4	6.9	6.2	63.9	7.3	55.2	7.3
West Midlands	6.1	15.0	15.9	14.4	126.1	14.4	109.4	14.4
North West	3.4	8.5	7.9	7.1	70.4	8.0	60.1	7.9
England	36.8	90.9	99.6	89.7	791.7	90.1	684.8	90.3
Wales	*	*	*	*	*	*	*	*
Scotland	2.3	5.6	5.5	4.9	54.5	6.2	46.6	6.1
Great Britain	*	*	*	*	*	*	*	*
Northern Ireland	*	*	*	*	*	*	*	*
United Kingdom	40.5	100.0	111.0	100.0	878.3	100.0	758.2	100.0

(a) Average number employed during the year, including full and part-time employees and working proprietors.

(b) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery. The value also includes assets acquired under finance leasing arrangements - see Table 2.

(c) Where a census return covered addresses in two or more regions, an estimate of the net output attributable to each address was made by assuming that net output was proportionate to employment. An estimate for each region was obtained by aggregating estimates of net output for addresses located in that region. Gross value added at factor cost was treated similarly.



TABLE 8

PA326

Output and costs, 1989  
All United Kingdom businesses classified to each Activity Heading within the industry

	Unit	3261	3262
Enterprises(a)	Number	2,965	130
Businesses	"	2,983	132
Sales of goods produced	£ million	947.7	394.0
Work done and industrial services rendered	"	70.5	2.2
Capital goods produced for use within the business	"	1.1	0.4
Non-industrial services rendered	"	1.8	0.4
Goods merchanted or factored	"	41.3	134.5
<b>Total sales and work done</b>	"	<b>1,062.4</b>	<b>531.5</b>
Increase during the year, work in progress and goods on hand for sale	"	-0.1	4.9
<b>Gross output</b>	"	<b>1,062.3</b>	<b>536.5</b>
Purchases of materials for use in production, packaging and fuel	"	375.6	163.2
Purchases of goods for merchenting or factoring	"	28.2	103.1
Increase during the year, stocks of materials, stores and fuel	"	4.7	6.3
Cost of industrial services received	"	50.7	10.6
<b>Net output</b>	"	<b>612.5</b>	<b>265.9</b>
Total employment	Thousand	29.0	11.5
<b>Net output per head</b>	£	<b>21,112</b>	<b>23,047</b>
Cost of non-industrial services received			
Hire of vehicles, plant and machinery	£ million	5.8	5.1
Rents of industrial and commercial buildings	"	4.7	0.8
Commercial insurance premiums	"	7.2	2.1
Bank charges	"	1.5	0.3
Other non-industrial services	"	57.9	18.1
Licensing of motor vehicles	"	0.2	-
Rates, excluding water rates	"	11.2	5.3
<b>Gross value added at factor cost</b>	"	<b>524.1</b>	<b>234.1</b>
<b>Gross value added at factor cost per head</b>	£	<b>18,066</b>	<b>20,290</b>

(a) The count of enterprises shown in each column represents the number of enterprises owning the businesses shown for each activity heading. Because an enterprise may own businesses in more than one activity heading, the sum of the enterprise counts may exceed the total for the industry.

TABLE 9

PA326

Capital expenditure, 1989 (a)  
All United Kingdom businesses classified to each Activity Heading within the industry

	£ million	
	3261	3262
Land and buildings		
New building work	14.9	8.6
Land and existing buildings		
Acquisitions	2.9	0.6
Disposals	4.4	9.1
Net	13.5	0.1
Plant and machinery		
Acquisitions	64.0	35.1
Disposals	6.6	0.5
Net	57.5	34.6
Vehicles		
Acquisitions	7.4	0.8
Disposals	2.5	0.3
Net	4.9	0.5
<b>Total net capital expenditure</b>	<b>75.8</b>	<b>35.2</b>

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

TABLE 10

Stocks and work in progress, 1989  
All United Kingdom businesses classified to each Activity Heading within the industry

	£ million	
	3261	3262
10a Increase during year		
Materials, stores and fuel	4.7	6.3
Work in progress	7.5	0.9
Goods on hand for sale	-7.6	4.0
<b>Total</b>	<b>4.6</b>	<b>11.2</b>
10b Value at end of year		
Materials, stores and fuel	51.4	26.5
Work in progress	77.7	41.2
Goods on hand for sale	40.9	48.8
<b>Total</b>	<b>170.1</b>	<b>116.5</b>



TABLE 11

PA326

Operating ratios, 1989

All United Kingdom businesses classified to each Activity Heading within the industry

Businesses	Unit	3261	3262
Gross output per head	£	36,618	46,503
Net output per head	£	21,112	23,047
Gross value added per head	£	18,066	20,290
Gross value added as a percentage of gross output	%	49	44
Ratio of gross output to stocks		6.2	4.6
Wages and salaries as a percentage of gross value added	%	61	56
Ratio of operatives to administrative, technical and clerical employees		2.1	2.7
Wages and salaries per operative	£	10,936	10,674
Wages and salaries per administrative, technical and clerical employee	£	13,349	13,230
Net capital expenditure per head (a)	£	2,613	3,048
Net capital expenditure as a percentage of gross value added (a)	%	15	15

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

TABLE 10  
Stocks and work in progress, 1989  
All United Kingdom businesses classified to each Activity Heading within the industry

£ million	3261	3262
Total	1,252	1,252
Goods on hand for sale	5.3	5.3
Work in progress	18.7	18.7
Materials, stores and fuel	10.7	10.7
10% increase during year	5.0	5.0
Commercial insurances	2.1	2.1
Bank charges	1.2	1.2
Other non-industrial services	1.8	1.8
Licensing of motor vehicles	0.8	0.8
Rates, excluding water rates	4.0	4.0
Gross value added at factor cost	18,066	20,290
Gross value added at factor cost per head	£	

(a) The count of enterprises shown in each column represents the number of enterprises which are shown for each activity heading, because an enterprise may own businesses in more than one activity heading. The total for the industry is 48.8.





Published by HMSO for the Central Statistical Office

HMSO publications are available from:

**HMSO Publications Centre**

(Mail and telephone orders only)  
PO Box 276, London SW8 5DT  
Telephone orders (071) 873 9090  
General enquiries (071) 873 0011  
(queuing system in operation for both numbers)

**HMSO Bookshops**

49 High Holborn, London, WC1V 6HB (071) 873 0011 (counter service only)  
258 Broad Street, Birmingham, B1 2HE (021) 643 3740  
Southey House, 33 Wine Street, Bristol, BS1 2BQ (0272) 264306  
9-21 Princess Street, Manchester, M60 8AS (061) 834 7201  
80 Chichester Street, Belfast, BT1 4JY (0232) 238451  
71 Lothian Road, Edinburgh, EH3 9AZ (031) 228 4181

**HMSO's Accredited Agents**

(see Yellow Pages)  
*And through good booksellers*

*'Brief extracts from this publication may be reproduced provided the source is fully acknowledged. Proposals for reproduction of larger extracts should be addressed to the Librarian, Central Statistical Office, Government Buildings, Cardiff Road, Newport, Gwent NP9 1XG.'*

© Crown copyright 1991  
First published 1991

ISBN 0-11-535200-7



9 780115 352003

£7.50 net

PA326 Mechanical power transmission equipment