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BOARD OF TRADE

THE REPORT ON THE CENSUS OF PRODUCTION FOR 1958

Part 53
GENERAL MECHANICAL ENGINEERING

*Presented by the Board of Trade to Parliament in pursuance of the
Statistics of Trade Act, 1947 (10 & 11 Geo.6 Ch.39, Sec.7)*

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NOTES

These notes give only the main information which is needed for interpreting the census figures. Fuller explanations are given in a separate booklet of Introductory Notes (Part 1 of the Report on the Census of Production for 1958).

CHANGES IN THE 1958 CENSUS

Some changes were introduced in the 1958 census, which affect the comparability between 1954 and 1958 figures.

Returns in full detail were required only from firms employing 25 or more persons, instead of, as previously, from firms employing 11 or more persons.

The coverage of firms' returns for 1958 was in many cases rather wider than for 1954. In both years the census was based on the establishment, comprising in most cases the whole of the premises under the same ownership or management at a particular address (e.g. a factory or mine); but offices, warehouses, laboratories, etc. at addresses separate from the works were treated as part of the establishment. For 1958, but not for 1954, firms were asked to include also, in all sections of their returns, particulars relating to merchanting or factoring, canteens operated by them, and other ancillary activities, such as bottling, packing, and the manufacture of containers for packing their own products, whether or not these activities were carried on at the same address as the works, unless

they were conducted by a separate company, or by a separate department with a separate set of accounts; building and engineering maintenance departments were treated similarly. Selling and transport departments were treated in this way both for 1954 and 1958. While the effect of including these further ancillary activities was generally to produce higher figures for employment etc., the reporting of separate figures for merchant goods led to the exclusion of some firms who proved to be merchants with only minor productive activities.

Changes made for 1958 in the instructions governing the making of returns for two or more establishments operated by the same firm permitted combined returns to be made more freely than in previous censuses. Combined returns were accepted covering establishments in the same census industry, and situated in the same country (i.e. England, Scotland or Wales).

The 1954 figures have been re-tabulated to correspond as closely as possible to those for 1958, but because of the changes described above the correspondence is not always exact.

TERMS USED IN THE CENSUS REPORTS

CAPITAL EXPENDITURE

The expenditure on new building work shown excludes the cost of land and existing buildings purchased; for plant, machinery and vehicles both new and second-hand items are included. The value is that charged to capital account during the year, including any transport and installation cost involved. Capital expenditure in respect of establishments in Great Britain where production had not started before the end of the year is included in Table 1.

CHARACTERISTIC PRODUCTS (See the description of the method of classification before List of Tables)

EMPLOYMENT

(i) Working proprietors

These include all persons regarded as 'self-employed' for National Insurance purposes, and members of their families who worked in the business without receiving fixed wages or salaries; but persons working less than half the normal hours are excluded.

(ii) Employees

Employees are classified under the two main headings of (a) administrative, technical and clerical employees and (b) operatives. The figures relate to persons on the pay-roll (i.e. whose National Insurance cards were held by employers), whether full-time or part-time employees. The figures for 1958 include, but those for 1954 exclude, persons engaged in merchanting or factoring, and canteen workers.

Administrative, technical and clerical employees include managers, superintendents, and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; travellers; and office (including works office) employees.

Operatives include all other classes of employees, that is, broadly speaking, all manual wage earners. They include those employed in and about the factory or works; operatives employed in power houses, transport work, stores, warehouses and, for 1958, canteens; inspectors, viewers and similar workers; maintenance workers; and cleaners. Operatives engaged in outside work of erection, fitting etc. are also included, but outworkers (i.e. persons employed by the firm who worked on materials

supplied by the firm in their own homes, etc.) are excluded.

(iii) Total employment

This is the sum of the average number of employees and the number of working proprietors; outworkers are excluded.

ENTERPRISE

The term enterprise is used in this report to mean one or more firms under common ownership or control as defined in the Companies Act, 1948. An enterprise normally consists either of a single firm, or of a holding company together with its subsidiary companies.

ENTRIES

The number of entries shown in Tables 4, 5 and 7 is the number of returns on which figures against a particular output or production heading were recorded. The number of entries is less than the corresponding number of establishments to the extent that combined returns were made covering more than one of the establishments concerned.

ESTABLISHMENT

In most cases an establishment comprises the whole of the premises under the same ownership or management at a particular address (e.g. a factory or mine). Offices, warehouses, laboratories and other ancillary places of business at a separate address from the works were treated as part of the establishment.

INTERMEDIATE PRODUCTS

For some industries figures are given showing the total quantities made during the year of important intermediate products, i.e. products which may be further processed in the establishments in which they are produced, whether or not they are also sometimes sold. They include also goods produced from materials supplied by other firms.

MATERIALS AND FUEL

The totals shown include the cost of all purchases of materials and components for use in production, and of fuel (including oil, gas and electricity) for all purposes including heating, lighting and transport (where carried out by firms' own staff included in the return); all packing

materials, including the full cost of returnable cases and containers when first purchased; workshop materials; office materials; water charges; materials for repairs to firms' own buildings, plant and vehicles when carried out by their own work-people included in the return; consumable tools; and parts for machinery purchased during the year as replacements. Purchases of goods for merchandising or factoring, and canteen supplies, are included for 1958 but not for 1954. Materials supplied by customers for processing are excluded for both years.

The values shown include any duty paid (less rebate, etc.) but exclude trade discounts allowed. The cost of transport was included only if included in the cost of materials as invoiced; amounts paid to transport organisations, including firms' own separate transport organisations, for delivery of materials and fuel are therefore excluded. Materials purchased overseas were entered at their c.i.f. cost plus any duty if the cost of transport from the docks was not included in the invoiced price, and at their full delivered cost if invoiced 'carriage paid home'.

NET OUTPUT

The net output of an industry represents the value added to materials by the process of production and includes for 1958 the gross margin on any merchanted or factored goods sold; it constitutes the fund from which wages, salaries, rents, rates and taxes, advertising and other selling expenses, and all other similar charges have to be met, as well as depreciation and profits. There is no appreciable duplication in net output.

Net output was normally obtained by taking the total value of sales and work done (including, for 1958, the value of merchanted goods sold and canteen takings); adding the value of stocks at the end of the year and deducting their value at the beginning of the year; and deducting also the cost of materials and fuel purchased (including, for 1958, the value of goods purchased for merchandising and canteen supplies), payments for work given out to other firms, and payments for transport. The net amount of duty paid was deducted, and the net amount of subsidy received added.

NET OUTPUT PER PERSON EMPLOYED

The figures for net output per person employed are derived by dividing net output by total employment (see above).

PRINCIPAL PRODUCTS (See the description of the method of classification before List of Tables)

SALES

Sales include goods made by the business covered by the return, those made for it by outworkers or by other firms from materials given out to them (sometimes described as goods made on commission), and waste products sold. Any machinery or other capital items produced for use in the business covered by the return are also included, the value being that adopted in the firm's capital account for income tax purposes. Goods sold without being subjected to any manufacturing process (merchanted or factored) and canteen takings are included for 1958 but not for 1954; where the total sales of merchanted or factored goods were less than £5,000, firms were permitted to include them with the figures for sales of goods of their own production.

The value shown for sales is the net selling

SYMBOLS USED

The following symbols are used throughout the reports:

- .. for not available
- for nil or negligible (less than half the final digit shown)

value, defined as the amount charged to customers whether on an ex-works or delivered basis, net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc.; the net amount charged for packing materials is included. Goods charged on a delivered basis to customers overseas, are included at the f.o.b. value. For work done on commission or for the trade, the value shown is the net amount charged. With a few exceptions, receipts for business and other services are not included.

To the extent that the finished products of one establishment constitute the materials purchased by another, total figures of the value of sales (and of materials and fuel purchased) include an element of duplication.

STOCKS AND WORK IN PROGRESS

The values shown are the income tax values of stocks of products on hand for sale, and of materials and fuel, at the beginning and end of the year of return. For 1958, but not for 1954, they include any stocks of goods held for merchandising or factoring. The value of work in progress at the two dates is also usually shown. This excludes any progress payments made to sub-contractors, and no deduction is made on account of progress payments received.

TRANSPORT PAYMENTS

These represent the total amount paid or credited during the year for both outwards transport of finished goods sold and inwards transport of materials and fuel purchased. They include payments to other firms, and to any separate transport organisation of the same firm, not covered by the return, but exclude the value of transport services provided by the business covered by the return. The items included are payments for hired cartage and for inwards and outwards carriage by all forms of inland transport, that is railways, road haulage, canals, coast-wise shipping, air, etc. Payments made for sea freight on goods sold to customers overseas and on materials and fuel purchased from overseas suppliers are excluded.

WAGES AND SALARIES

These are the amounts paid during the year to operatives and to administrative, technical and clerical employees. Payments to working proprietors, whether called salaries or not, are excluded. The values shown include all overtime payments, bonuses and commissions, whether paid regularly or not, and no deduction is made for income tax, insurances, contributory pensions, etc. The value of any payments in kind, travelling expenses, lodging allowances, etc. is excluded.

Figures are also shown for average salaries etc. paid per head for the week ended 25th October, 1958. For staff paid monthly, the figures are based on payments made in October, 1958. Where payments related to periods other than a week or month, an appropriate proportion was returned. Only those bonuses and commissions actually paid in the period are included.

WORK GIVEN OUT

The figures shown represent the total amount paid for work done by other firms on materials supplied to them, and also by firms' own establishments for which separate returns were made. They do not include payments to individual outworkers or payments for business and other services.

ROUNDING OF FIGURES

The figures in the tables have, where necessary, been rounded to the nearest final digit. There may, therefore, be apparent slight discrepancies between the sums of the constituent items and the totals shown.

The Report on the Census of Production for 1958

Part 53. GENERAL MECHANICAL ENGINEERING

This report on the General Mechanical Engineering Industry relates to establishments engaged in the manufacture of ball, roller, needle and similar bearings; transmission and other precision chains, including transmission chains for motor vehicles and cycles; machinery parts other than those made in association with complete machines; and to establishments undertaking general sub-contract or repair work. The report includes particulars relating to establishments whose products are of such a mixed character that they cannot be allocated elsewhere among the mechanical engineering group of industries. The industry corresponds to minimum list heading 349 of the second (1958) edition of the Standard Industrial Classification, which has been used for the first time in the 1958 Census.

This industry formed part of Industries 4I (Mechanical Engineering (General)) and 4J (Mechanical Engineering (Repairing)) in the reports on the last detailed Census of Production, for 1954. For 1958, the mechanical engineering industries have been reclassified and most of the machinery formerly included in Industry 4I is now included in the report on Miscellaneous (Non-electrical) Machinery (Part 50). In addition, certain other classes of machinery, formerly included in Industry 4I, are now the subject of separate reports as follows:- Agricultural Machinery (except Tractors) (Part 42); Industrial Engines (Part 45); Contractors' Plant and Quarrying Machinery (Part 47); Office Machinery (Part 49); and Industrial Plant and Steelwork (Part 51). Other items, formerly included in Industry 4I, are now reported on as follows:- detachable tools for rock drilling machinery in the report on Engineers' Small Tools and Gauges (Part 44); dictating machines in the report on Radio and Other Electronic Apparatus (Part 59); automatic wire-working machinery in the report on Metal-working Machine Tools (Part 43); ordnance in the report on Ordnance and Small Arms (Part 52) and the installation of air conditioning, heating and ventilating plant in the report on Construction (Part 128). Particulars relating to railway brake gear, formerly reported on in Industry 3L (Railway Locomotive Shops and Locomotive Manufacturing) are now included in this report.

For 1958, returns in full detail were required only from firms employing twenty-five or more persons and most of the tables in this report relate only to these larger firms. This is an important change from previous censuses when returns in full detail were required from firms employing eleven or more persons on productive work. Estimates for the industry as a whole are given in Table 1.

The figures given for 1954 correspond as closely as possible to those collected for 1958 but the correspondence is not exact, especially in respect of the small firms who gave only limited information. Some other changes introduced in the 1958 Census also affect the comparability between 1954 and 1958 figures; these are explained in the notes prefacing this report.

TREATMENT OF PARTS

In the 1958 Census reports a distinction is made between parts sold in association with the sale of complete machines, and other parts sold. Parts sold other than in association with the sale of complete machines are treated as principal products of this industry and are shown in Table 4 whether included on returns classified to this or to other industries; where the return was classified to another industry, these parts are also shown in Table 5.

Parts included on returns which also showed sales of the complete machines are treated as principal products of the mechanical engineering industry to which the manufacture of the complete machines is classified. The reports on these industries are published as part numbers 42, 43, 45, 46, 47, 48, 49, 50 and 51. Each of these reports contains an additional table, 9, in which sales of all parts of the machines covered by the report are brought together.

This industry is defined in terms of its 'principal products' which are those shown in Table 4. A census return was classified to this industry if the sales of the principal products of this industry (excluding parts, etc., as mentioned below) accounted for a greater proportion of its output than the principal products of any other industry (with corresponding exclusions). Where, however, the application of this rule would have resulted in a change of classification between 1954 (on the revised basis) and 1958, the return was classified to the same industry as for 1954 unless the output of principal products in the new industry was one third more than in the old; this modification of the general rule was designed to avoid discontinuities as the result of marginal changes of output between the two censuses. The rule was also modified in the case of returns with amounts totalling 50 per cent. or more at structural work headings, which include the value of materials supplied, or 80 per cent. or more at headings for installation work on, or sales of, air conditioning, heating and ventilating plant (or a proportionate combination of these two groups of headings); these returns were classified to the Construction Industry (Part 128).

Sales of machinery parts, work done (other than structural and installation work), including repair work, were not taken into account in classifying returns (in which case the return was classified to this industry) or where the return would otherwise have been classified outside the mechanical engineering group of industries. Sales of merchantable products and of non-specific items such as waste products and canteen takings were also not taken into account in classifying returns.

A procedure similar to that described above for classifying to the industry was followed in classifying to the sub-divisions of the industry shown in Table 2, the sub-divisions being defined in terms of their 'characteristic products'. The numbers shown in the left hand column of Table 4 identify the sub-division of which the item is a characteristic product. The total value of sales of characteristic products shown in Table 2 includes, besides the products which define the sub-divisions, other items of output assumed to be closely related to them, e.g. waste products, but such items were not generally taken into account in determining the classification to sub-divisions.

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Industry summary: United Kingdom

TABLE 1 Estimates for all firms (a)

	Unit	1954	1958
Number of enterprises	No.	..	3,891
Number of establishments	"	..	4,061
Sales	{ goods produced and work done	£'000	224,130
	{ merchantable goods and canteen takings	"	15,666
Purchases of materials and fuel (b)	"	82,057	143,491
Products on hand for sale (b)	{ change during year	"	+ 154
	{ at end of year	"	11,181
Work in progress	{ change during year	"	+ 337
	{ at end of year	"	20,466
Stocks of materials and fuel (b)	{ change during year	"	- 41
	{ at end of year	"	18,644
Payments for work done on materials given out	"	5,784	6,228
Payments for transport	"	1,774	2,753
Net output	"	134,965	186,761
Average number employed (c)	{ operatives	Th.	131.9
	{ other employees	"	33.1
	{ total, including working proprietors	"	166.0
Wages and salaries	{ of operatives	£'000	60,690
	{ of other employees	"	19,897
Capital expenditure (d)			
New building work	"	2,745	4,256
Plant and machinery	{ acquisitions	"	8,461
	{ disposals	"	512
Vehicles	{ acquisitions	"	873
	{ disposals	"	233

(a) For 1958, estimates in respect of returns from small firms and unsatisfactory returns accounted for about 17 per cent. of the total figures in which they were incorporated. A summary of the detailed returns received is given in Table 2.

(b) Goods for merchanting and canteen supplies are included for 1958 but excluded for 1954.

(c) Persons engaged in merchanting or factoring and canteen workers are included for 1958 but excluded for 1954.

(d) Including expenditure in Great Britain for establishments not yet in production.

Analysis by sub-divisions

TABLE 2

Firms employing 25 or more

	Unit	Sub-divisions of the industry (b)					
		Ball and roller bearings		Precision chains		Firms engaged mainly on research and development work	
		10		20		31	
		1954	1958	1954	1958	1954	1958
Number of enterprises (c)	No.	14	16	9	5	6	7
Number of establishments	"	27	28	10	8	6	8
Sales	£'000	29,971	43,844	7,781	8,718	477	2,079
{ goods produced and work done	"	..	3,575	..	124	..	7
{ merchanted goods and canteen takings	"	..	..	..	..	..	..
Sales of characteristic products	"	28,929	42,537	7,152	8,023	477	1,954
Purchases of materials and fuel (d)	"	11,345	19,733	2,466	3,202	66	606
Products on hand for sale (d)	"	+ 94	+ 955	- 223	- 27	-	-
{ change during year	"	..	..	..	..	..	..
{ at end of year	"	3,184	4,670	549	876	-	-
Work in progress	"	- 353	- 505	+ 34	+ 40	+ 20	+ 35
{ change during year	"	..	..	..	..	..	..
{ at end of year	"	3,247	5,767	511	728	45	212
Stocks of materials and fuel (d)	"	- 167	- 14	- 132	- 71	+ 2	+ 46
{ change during year	"	..	..	..	..	..	..
{ at end of year	"	2,919	4,778	919	1,315	25	136
Payments for work done on materials given out	"	182	214	58	103	-	337
Payments for transport	"	155	267	75	80	-	9
Net output	"	17,863	27,642	4,862	5,400	432	1,215
Average number employed (e)	No.	18,576	20,416	4,077	4,020	263	425
{ operatives	"	4,747	5,450	1,412	1,444	254	478
{ other employees	"	..	..	..	..	..	..
{ total, including working proprietors	"	23,325	25,866	5,489	5,464	517	903
Net output per person employed	£	766	1,069	886	988	836	1,345
Wages and salaries	£'000	8,255	11,468	1,906	2,152	142	287
{ of operatives	"	2,461	3,323	1,092	1,161	150	409
{ of other employees	"	..	..	..	..	..	..
Wages and salaries per head	£	444	562	468	535	539	674
{ operatives	"	518	610	773	804	590	856
{ other employees	"	..	..	..	..	..	..
Capital expenditure (f)	£'000	270	814	117	285	3	13
New building work	"	1,187	2,026	441	1,313	15	38
Plant and machinery	"	25	53	10	63	4	-
{ acquisitions	"	61	97	33	85	8	11
{ disposals	"	16	25	(g)	20	(g)	4

of the industry

persons: United Kingdom (a)

	Unit	Sub-divisions of the industry (b)									
		Repairers and jobbers		Firms making for the trade		Makers of components and parts for sale		Other engineering		Total	
		32		33		34		35			
		1954	1958	1954	1958	1954	1958	1954	1958	1954	1958
		178	122	166	135	140	165	302	315	805	765
		351	145	187	146	160	188	380	386	1,121	909
		14,104	12,365	11,977	16,346	19,539	36,933	102,380	144,583	186,229	264,869
		..	3,006	..	428	..	1,572	..	4,306	..	13,017
		12,445	10,966	10,233	14,958	8,979	26,660	75,754	109,973		
		4,023	7,422	2,129	4,377	7,756	18,646	40,397	65,241	68,181	119,227
		+ 15	+ 90	- 7	+ 76	- 52	+ 55	+ 301	+ 195	+ 128	+ 1,345
		219	640	193	317	713	1,578	4,493	7,251	9,291	15,332
		- 3	- 98	- 152	+ 91	+ 130	+ 1,345	+ 606	+ 600	+ 280	+ 1,508
		491	531	922	939	2,651	6,106	9,137	14,971	17,005	29,254
		- 2	- 14	- 59	+ 26	- 114	+ 1,145	+ 437	+ 10	- 34	+ 1,129
		949	1,022	362	543	2,104	5,170	8,212	11,594	15,491	24,558
		240	276	490	564	1,142	674	2,694	3,007	4,806	5,175
		134	123	65	132	176	329	870	1,348	1,474	2,287
		9,717	7,528	9,076	11,894	10,428	21,401	59,764	80,099	112,142	155,179
		12,709	7,136	9,572	9,730	10,455	16,336	54,463	62,697	110,115	120,760
		2,235	1,716	1,756	1,983	2,614	4,818	14,663	18,999	27,681	34,888
		15,011	8,886	11,342	11,727	13,080	21,169	69,157	81,710	137,921	155,725
		647	847	800	1,014	797	1,011	864	980	813	996
		5,431	4,312	4,551	5,856	4,715	9,378	25,680	36,971	50,680	70,424
		1,178	1,277	1,074	1,702	1,634	3,655	9,027	14,156	16,615	25,682
		427	604	475	602	451	574	472	590	460	583
		527	744	611	858	625	759	616	745	600	736
		175	82	179	161	106	603	884	1,500	1,734	3,458
		312	374	481	1,024	1,060	2,262	3,391	5,351	6,886	12,389
		18	23	44	95	130	174	194	209	425	617
		119	126	67	160	77	150	355	525	721	1,153
		37	41	19	66	24	55	89	197	194	408

For footnotes to the table, see next page

Analysis by size of enterprise within the industry, 1958

TABLE 3 Firms employing 25 or more persons: United Kingdom

Average number employed by the enterprise in this industry (a)	Enterprises	Establishments	Total sales (b) £'000	Net output £'000	Employees		Wages and salaries		Capital expenditure (c) £'000	Net output per person employed (a) £
					Operatives	Others	Operatives	Others		
25 - 49	328	338	19,111	11,545	9,582	2,247	5,639	1,818	1,110	972
50 - 99	223	237	24,831	14,219	12,022	2,962	6,744	2,347	1,196	947
100 - 199	96	130	25,498	14,254	10,143	3,217	6,002	2,527	1,232	1,067
200 - 299	40	43	20,898	11,046	7,228	2,495	4,103	1,881	1,192	1,136
300 - 399	13	22	8,259	4,592	3,436	1,035	2,166	805	307	1,027
400 - 499	13	15	11,282	5,963	4,210	1,574	2,504	1,128	298	1,031
500 - 749	24	38	26,263	14,443	11,457	3,498	6,744	2,620	1,325	966
750 - 999	5	6	9,490	4,128	3,339	1,060	2,233	729	1,232	938
1,000 - 1,499	5	13	13,546	6,958	4,722	1,288	2,822	909	1,007	1,158
1,500 - 1,999	3	5	6,884	3,697	3,948	1,182	2,355	847	1,137	721
2,000 - 2,499	5	17	18,243	11,288	9,140	2,400	4,918	1,764	610	978
2,500 - 3,999	3	12	16,104	9,202	6,253	2,527	3,886	1,981	482	1,048
5,000 and over	7	33	77,477	43,844	35,280	9,403	20,308	6,328	5,873	981
Total	765	909	277,886	155,179	120,760	34,888	70,424	25,682	17,001	996

(a) Including working proprietors.

(b) Value of sales of goods (including merchanted goods), work done, and canteen takings.

(c) Capital expenditure on new building work and on acquisition of plant, machinery and vehicles. Excluding expenditure for establishments not yet in production.

Footnotes to Table 2

(a) The following information relates to small firms (employing fewer than 25 persons) in this industry:

Number of returns	1958
Average number of persons employed including working proprietors	3,065
Males	25,140
Females	4,556

(b) The method of classifying returns to sub-divisions of the industry is explained at the beginning of this report; the characteristic products of each sub-division are identified in Table 4.

(c) The sum of the figures for the sub-divisions exceeds the total for the industry to the extent that enterprises made returns for more than one sub-division.

(d) Goods for merchanting and canteen supplies are included for 1958 but excluded for 1954.

(e) Persons engaged in merchanting or factoring and canteen workers are included for 1958 but excluded for 1954.

(f) Excluding expenditure at establishments not yet in production.

(g) Owing to the risk of disclosure of information relating to individual firms, separate particulars cannot be given.

Sales of principal products of the industry by larger firms, including sales by establishments classified to other industries

TABLE 4 Firms employing 25 or more persons: United Kingdom

Industry sub-division (a)	1954		1958		Enterprises	Entries
	Quantity	Value £'000	Quantity	Value £'000		
Bearings and parts thereof						
10 Ball and roller bearings and parts thereof (excluding non-precision balls)	..	28,459	..	41,976	36	40
35 Other bearings (e.g. plain) and bushes	..	9,562	..	13,004	39	42
35 Burners						
Oil fuel burning equipment	..	2,961	..	6,226	54	57
Other	..	527	..	274	15	17
20 Chains						
Steel transmission						
Roller type						
Up to and including 0.625 in. pitch						
Not over 0.2 in. width between plates	..	1,115	..	688	..	..
Over 0.2 in. width between plates	..	2,341	..	2,788	..	..
Over 0.625 in. pitch	..	2,375	..	2,718	7	10
Other than roller type	..	266	..	296	10	12
Precision chains, other than transmission chains	..	739	..	968	..	..
Transmission chains of iron	..	440	..	1,136	5	5
35 Cylinder liners and inserts	Th. 1,341	1,085	Th. 2,020	1,838	6	10
35 Filters, other than water filters and filter presses						
Oil	225 ..	255 882	..	3,705	20	21
Other	87.7 ..	528 812	81.0 ..	601 994	20	21
35 Gaskets and jointings including metallic packings (b)	..	4,693	..	4,609	16	17
35 Gears and gear wheels						
For vehicles	..	1,246	..	4,739	22	25
Other than for vehicles	..	8,315	..	12,836	98	105
Unclassified	..	1,247	..	4,578	29	31
35 Lubricators and parts other than of railway wagon, etc. axle boxes not elsewhere specified (b)	..	1,438	..	2,383	10	10
35 Mechanical power transmission plant not elsewhere specified						
Complete	..	3,660	..	6,374	22	24
Parts	..	2,583	..	2,015	33	34

TABLE 4 (contd.)

Industry sub-division (a)	1954		1958			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
		£'000		£'000	Number	Number
35 Moulds, metal (other than moulds and dies for use with metal-working machine tools or for diecasting, moulds for use in civil engineering, and ingot moulds and bottoms)	..	1,283	..	1,533	37	37
	Th. tons		Th. tons			
35 Moulding boxes and parts thereof	3.2	384	2.6	450	7	7
			..	65		
35 Oil seals	..	2,491	..	3,544	13	13
35 Pistons	..	5,224	..	7,212	11	15
35 Piston rings, packing rings, etc.	..	4,352	..	4,254	21	26
	Th. doz.		Th. doz.			
35 Pressure and vacuum gauges	138	1,186	238	2,143	45	47
	..	543	..	907		
35 Pulleys and pulley wheels	..	1,288	..	1,432	34	34
35 Railway and locomotive brake gear (b)	..	2,685	..	6,089	10	11
35 Rolls of iron or steel						
For metal rolling mills	Th. tons		Th. tons			
Cast iron	43.7	4,016	41.6	5,065	23	26
Cast steel	21.7	2,619	38.6	5,355	17	19
Forged steel	..	(c)	5.5	1,736	14	15
For machinery, other than metal working	6.0	588	8.3	1,176	28	31
35 Other and unclassified products of the industry	..	17,948	..	29,653	402	444
35 Plant and machinery unclassified						
Complete	..	798	..	5,931	58	65
Parts	..	499	..	2,149	33	38
34 Parts not elsewhere specified sold other than in association with the sale of complete machines (d)						
Agricultural machinery other than tractors	..	1,837	..	4,404	74	116
Metal working machine tools	..	932	..	1,086	66	67
Industrial engines	..	1,679	..	6,296	54	61
Textile machinery	..	986	..	2,898	74	86
Contractors' plant and quarrying machinery	..	1,465	..	5,406	105	143
Mechanical handling equipment	..	642	..	2,932	110	150
Office machinery	..	229	..	1,293	16	24
Other machinery	..	6,385	..	18,479	264	530
Industrial plant	..	2,621	..	8,537	143	236

TABLE 4 (contd.)

Industry sub-division (a)	1954		1958			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
		£'000		£'000	Number	Number
35 Non-electrical parts of motor vehicle engines (b)	..	8,361	..	6,290	21	21
35 Other non-electrical parts of internal combustion reciprocating engines	..	7,181	..	13,125	15	16
Waste products sold	Th. tons		Th. tons			
Iron and steel scrap	106	526	103	765	354	372
	..	114	..	330		
Brass scrap	3.7	547	3.6	443	169	172
	..	126	..	158		
Copper scrap	..	58	..	51	58	61
Other scrap metals	..	780	..	821	140	145
Other	..	54	..	48	43	44
35 Machinery and plant erected and installed and other installation work (excluding marine machinery and air conditioning, heating and ventilation plant)		109		2,395	32	32
31 Research and development work done for customers (including Government Departments)		1,362		2,329	32	33
32 Repair and jobbing work		39,534		48,816	1,230	1,350
33 Other work done on commission, etc.		37,342		38,265	681	733
Total		234,305		358,611	..	..
Sales in other industries (see Table 5)		80,533		129,292	..	..
Principal products of this industry sold by establishments in the industry		153,772		229,319	765	810(e)

(a) The number given is that of the sub-division of which the item is a characteristic product. The sales shown are total sales by larger firms, not merely sales by establishments classified to the sub-division.

(b) So far as recorded separately.

(c) Not recorded separately.

(d) Details of these parts are given in Table 9 at the end of the reports relating to the production of the complete machines.

(e) This figure represents the total number of returns made by larger firms in this industry, which is less than the total number of establishments shown in Table 2 on account of combined returns covering more than one establishment.

Sales of principal products of the industry by establishments
classified to other industries

TABLE 5 Firms employing 25 or more persons: United Kingdom

	1954		1958			
	Quantity	Value £'000	Quantity	Value £'000	Entries Number	Principal industries in which produced (a)
Bearings and parts thereof						
Ball and roller bearings and parts thereof (excluding non-precision balls)	..	158	..	138	14	46, 50, 52, 63
Other bearings (e.g. plain) and bushes	..	831	..	810	16	41, 42, 45, 50
Burners						
Oil fuel burning equipment	..	769	..	1,929	38	50, 51, 59, 63
Other	..	515	..	155	..	40, 50, 51, 75
Chains, steel transmission and other precision chains	..	148	..	126	9	48, 50, 51, 63
Filters, other than water filters and filter presses						
Oil	..	533	..	2,020	13	50, 61, 63, 71
Other	..	501	..	526	13	45, 50, 51, 62
Gaskets and jointings including metallic packings	..	1,316	..	1,376	7	51, 63, 89, 127
Gears and gear wheels	..	1,371	..	5,631	64	51, 56, 63, 65
Lubricators and parts other than of railway wagon, etc. axle boxes not elsewhere specified	..	129	..	177	..	41, 50
Mechanical power transmission plant not elsewhere specified						
Complete	..	237	..	739	12	43, 48, 50, 75
Parts	..	222	..	474	18	43, 48, 51, 54
Moulds, metal (other than moulds and dies for use with metal-working machine tools or for diecasting, moulds for use in civil engineering, and ingot moulds and bottoms) including moulding boxes and parts thereof	..	438	..	209	20	44, 50, 52, 126
Oil seals	..	102	..	21	..	50, 63, 121
Pistons, piston rings, packing rings, etc.	..	324	..	613	14	45, 47, 51, 63
Pressure and vacuum gauges	Th. doz. 53.7 ..	471 148	Th. doz. 43.1 ..	479 393	33	44, 50, 54, 75
Pulleys and pulley wheels	..	275	..	263	19	42, 48, 50, 52
Rolls of iron or steel						
For metal rolling mills	Th. tons		Th. tons			
Cast iron	10.2	977	10.2	1,277	13	38, 40, 43, 50
Cast steel	4.3	1,012	6.4	1,994	14	38, 40, 44, 50
Forged steel	..	(b)	5.4	1,734	..	38, 40, 43, 50

(94501)

TABLE 5 (contd.)

	1954		1958			
	Quantity	Value £'000	Quantity	Value £'000	Entries Number	Principal industries in which produced (a)
Rolls of iron or steel (contd.)	Th. tons	£'000	Th. tons	£'000	Number	
For machinery, other than metal working	2.8 ..	205 24	4.2 ..	477 75	24	38, 40, 50, 56
Railway and locomotive brake gear	..	..	..	3,531	9	51, 56, 63, 66
Other and unclassified products of the industry	..	6,745	..	14,226	205	50, 62, 63, 71
Plant and machinery unclassified						
Complete	..	706	..	3,990	52	45, 50, 59, 60
Parts	..	576	..	2,514	31	31, 59, 60, 67
Parts not elsewhere specified sold other than in association with the sale of complete machines (c)						
Agricultural machinery other than tractors	..	513	..	2,534	62	50, 51, 63, 68
Metal-working machine tools	..	368	..	431	37	50, 51, 70, 75
Industrial engines	..	1,219	..	1,065	35	44, 45, 50, 51
Textile machinery	..	226	..	635	46	46, 50, 51, 75
Contractors' plant and quarrying machinery	..	440	..	1,408	80	38, 50, 51, 52
Mechanical handling equipment	..	402	..	2,028	108	50, 51, 72, 75
Office machinery	..	57	..	348	13	44, 50, 56, 75
Other machinery	..	2,047	..	7,758	270	50, 51, 60, 75
Industrial plant	..	1,431	..	5,488	141	43, 48, 50, 51
Non-electrical parts of motor vehicle engines	..	2,885	..	4,148	12	43, 50, 63, 65
Other non-electrical parts of internal combustion reciprocating engines	..	708	..	745	5	43, 63, 71, 78
Repair and jobbing work	..	25,813	..	35,632	1,063	46, 48, 50, 51
Research and development work done for customers (including Government Departments)	..	872	..	21,173	489	44, 50, 51, 52
Other work done on commission, etc.	..	24,818	..	..	..	..
Total		80,533		129,292	..	

(a) The references given are to the list of industries at the back of this report.

(b) Not recorded separately.

(c) Details of these parts are given in Table 9 at the end of the reports relating to the production of the complete machines.

(94501)

Sales of other than principal products by larger firms in the industry

TABLE 6 Firms employing 25 or more persons: United Kingdom

	1954		1958	
	Quantity	Value £'000	Quantity	Value £'000
Castings of iron	..	995(a)	..	1,282
Castings, forgings and ingots of steel	..	937	..	1,096
Wood and metal patterns	..	21	..	10
Castings of brass and other copper alloys	..	221	..	309
Agricultural machinery and parts	..	375	..	317
Machine tools, metal working, and parts, new and reconditioned	..	1,341	..	998
Welding and cutting machinery and accessories	369
Engineers' small tools and parts				
Cutting and press tools	..	301	..	299
Jigs and fixtures	..	315	..	219
Other	..	299	..	664
Engineers' gauges and measuring instruments	..	72	..	31
Industrial engines, complete and parts	..	2,377	..	420
Textile machinery, parts and accessories	..	2,480	..	1,141
Civil engineering and contracting machinery and plant	..	279	..	10
Mechanical handling equipment and parts, new and reconditioned	..	457	..	894
Mining machinery and parts	..	1,962	..	571
Printing, book-binding, paper-working, etc., machines and parts, new and reconditioned	..	241	..	155
Space heating, ventilating and air-conditioning equipment	..	375	..	489
Pumps and parts	..	217	..	925
Air compressors and exhausters and parts	..	250	..	284
Industrial valves and cocks	..	131	..	118
Bottling, packing, canning, packeting and labelling machinery and parts	..	138	..	182
Brick, tile and cement block making machinery and parts	..	170	..	162
Food and drink preparation, processing and sterilising machinery and parts	..	494	..	1,164
Founding and diecasting machinery and parts	..	56	..	143
Steel and non-ferrous metal rolling mills and parts	..	310	..	360
Boiler-house plant and parts	..	205(b)	..	63
Furnaces and kilns, complete and parts	..	63	..	218

(94501)

TABLE 6 (contd.)

	1954		1958	
	Quantity	Value £'000	Quantity	Value £'000
Plant and machinery, complete and parts				
Chemical making machinery				
Water treatment plant				
Waterworks equipment	..	842	..	978
Gas works plant				
Other				
Grain processing machinery and parts	..	7	..	22
Fabricated iron and steelwork	..	548	..	621
Arms, ammunition and naval, military and air force stores	..	823	..	628
Cinematographic, optical, dental and medical equipment	..	26	..	163
Scientific and industrial instruments	..	304	..	348
Watches and clocks, complete and parts	..	24	..	16
Electrical goods and machinery	..	339	..	122
Radio and television apparatus and parts	222
Marine machinery and parts	..	608	..	264
Motor vehicles and trucks, complete	..	230	..	572
Tractors and trailers, complete and parts	
Motor bodies, chassis and other parts of motor vehicles	..	985	..	4,921
Motor cycle and cycle parts	..	(c)	..	155
Aircraft parts and accessories				
Parts of aero-engines	..	69	..	210
Other	..	482	..	991
Handtrucks, trolleys and parts	..	66	..	42
Stampings and pressings of iron and steel	..	228	..	242
Drop forgings	
Other manufactures	..	11,006	..	11,260
Work done				
Structural work carried out				
Work done as main or direct contractors		395		163
Work done as sub-contractors		106		206
Erection and installation of air-conditioning, heating and ventilating machinery and plant		285		509
Total value of goods sold without being subjected to any manufacturing process (merchanted or factored)		..		12,106
Canteen takings		..		911
Total		..		48,567

(a) Includes a small amount of finished wrought iron.

(b) Includes a small amount for boiler furnaces. (c) Not recorded separately.

(94501)

TABLE 7- Total make of intermediate products, 1958

This table is not applicable to the industry.

Employment and salaries, etc. for the week ended October 25, 1958

TABLE 8 Firms employing 25 or more persons: United Kingdom

	Males	Females	Total
	Number	Number	Number
Working proprietors	73	4	77
Operatives	98,360	19,692	118,052
Administrative, technical and clerical employees	23,595	11,604	35,199
Total employees	121,955	31,296	153,251
Average salaries, etc. paid per head for the week to administrative, technical and clerical employees	£ 17.0	£ 7.1	£ 13.7

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- 3 Stone and Slate Quarrying and Mining
- 4 Chalk, Clay, Sand and Gravel Extraction
- 5 Metalliferous Mining and Quarrying
- 6 Salt and Miscellaneous Non-metalliferous Mining and Quarrying
- 7 Grain Milling
- 8 Bread and Flour Confectionery
- 9 Biscuits
- 10 Bacon Curing, Meat and Fish Products
- 11 Milk Products
- 12 Sugar
- 13 Cocoa, Chocolate and Sugar Confectionery
- 14 Fruit and Vegetable Products
- 15 Animal and Poultry Foods
- 16 Margarine
- 17 Starch and Miscellaneous Food Industries
- 18 Brewing and Malting
- 19 Spirit Distilling and Compounding
- 20 Soft Drinks, British Wines, Cider and Perry
- 21 Tobacco
- 22 Coke Ovens and Manufactured Fuel
- 23 Mineral Oil Refining
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- 25 Dyestuffs
- 26 Fertilizers, and Chemicals for Pest Control
- 27 Coal-tar Products
- 28 Chemicals (General)
- 29 Pharmaceutical Preparations
- 30 Toilet Preparations
- 31 Explosives and Fireworks
- 32 Paint and Printing Ink
- 33 Vegetable and Animal Oils and Fats
- 34 Soap, Detergents, Candles and Glycerine
- 35 Synthetic Resins and Plastics Materials
- 36 Polishes
- 37 Gelatine, Adhesives, etc.
- 38 Iron and Steel (General)
- 39 Steel Tubes
- 40 Iron Castings, etc.
- 41 Non-ferrous Metals
- 42 Agricultural Machinery (except Tractors)
- 43 Metal-working Machine Tools
- 44 Engineers' Small Tools and Gauges
- 45 Industrial Engines
- 46 Textile Machinery and Accessories
- 47 Contractors' Plant and Quarrying Machinery
- 48 Mechanical Handling Equipment
- 49 Office Machinery
- 50 Miscellaneous (Non-electrical) Machinery
- 51 Industrial Plant and Steelwork
- 52 Ordnance and Small Arms
- 53 General Mechanical Engineering
- 54 Scientific, Surgical and Photographic Instruments, etc.
- 55 Watches and Clocks
- 56 Electrical Machinery
- 57 Insulated Wires and Cables
- 58 Telegraph and Telephone Apparatus
- 59 Radio and Other Electronic Apparatus
- 60 Domestic Electrical Appliances
- 61 Miscellaneous Electrical Goods
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- 85 Narrow Fabrics
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- 90 Miscellaneous Textile Industries
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- 114 Wooden Containers and Baskets
- 115 Miscellaneous Wood and Cork Manufactures
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- 118 Miscellaneous Manufactures of Paper and Board
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- 133 Summary Volume
- 134 Summary Volume
- 135 Summary Volume

CENSUS OF PRODUCTION REPORTS FOR OTHER RECENT YEARS

The census reports for earlier years include some items which are not included in the Report on the Census of Production for 1958. The most recent reports are listed below, with an indication of any important items they contain which do not appear in the 1958 Reports. The data in all these earlier reports is analysed in accordance with the original (1948) edition of the Standard Industrial Classification.

Census of Production for 1951: Summary Tables, Part I (H.M.S.O., 1956. Price 6s. net).

No important items which do not appear in the 1958 Reports.

Census of Production for 1951: Summary Tables, Part II (H.M.S.O., 1956. Price 6s. net).

Channels of sales, 1948

Payments for services, 1948

Shift working, 1951

Power equipment, 1951

Prime movers, 1951

Analysis of periods covered by census returns, 1948 and 1951.

The Report on the Censuses of Production for 1952 and 1953. Introductory Notes and 5 volumes. (These volumes are now out of print.)

No important items which do not appear in the 1958 Reports.

The Report on the Census of Production for 1954. Introductory Notes, Index of Products, and 154 booklets relating to individual industries (H.M.S.O., 1956-59. Prices vary, usually from 1s. 6d. to 2s. net for each booklet).

Detailed information about materials and fuel purchased.

Census of Production for 1954: Summary Tables, Part I (H.M.S.O., 1958. Price 9s. net).

Fuel purchased

Gas produced in certain industries

Electricity generated, purchased and sold

Materials purchased: iron and steel; non-

ferrous metals; paint; plastics materials;

cotton and rayon, nylon, etc. textiles; timber;

packing materials; replacement parts for plant

etc. (Information about purchases of other

materials is given in The Report on the Census

of Production for 1954.)

Census of Production for 1954: Summary Tables, Part II (H.M.S.O., 1959. Price 7s. net).

Regional analyses of gross output, net output and capital expenditure.

Census of Production for 1954: Summary Tables, Part III (H.M.S.O., 1959. Price 8s. net).

Sales of particular products by certain industries in Scotland and Wales.

The Report on the Censuses of Production for 1955, 1956 and 1957. Introductory Notes and 5 volumes (H.M.S.O., 1959. Prices 1s. 6d. to 3s. 6d. net according to size of volume).

No important items which do not appear in the 1958 Reports.

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