

66 General mechanical engineering

This Report on the General Mechanical Engineering Industry relates to establishments engaged wholly or mainly in manufacturing ball, roller, needle and similar bearings, including those for motor vehicles; transmission and other precision chains, including transmission chains for motor vehicles and cycles; other mechanical engineering products (including machinery parts) not reported elsewhere, and establishments undertaking general sub-contract or repair work. The Report includes establishments whose mechanical engineering products are of such a mixed character that they cannot be allocated elsewhere among the mechanical engineering group of industries.

This industry corresponds to minimum list heading 349 in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry corresponds to the General Mechanical Engineering Industry (Part 52) in the Reports on the last detailed Census of Production for 1963, except that pressure and vacuum measuring instruments, and oil filters for motor vehicles are now included in Scientific and Industrial Instruments and Systems Industry (Part 70) and Motor Vehicle Manufacturing Industry (Part 82) respectively; gears and gear wheels for vehicles which were all formerly included in this industry are now separately distinguished in this Report and in the Reports on Wheeled Tractor Manufacturing Industry (Part 81), Motor Vehicle Manufacturing Industry (Part 82), and Motor Cycle, Tricycle and Pedal Cycle Manufacturing Industry (Part 83). In addition the treatment of parts has been altered considerably for 1968 for this and other mechanical engineering industries. The distinction made in the 1963 Reports between parts sold in association with the sale of complete machines, and other parts sold, has been discontinued for 1968 and all parts are now treated in the same way as complete machines for classification, ie as principal products of their respective mechanical engineering industries and shown in Table 5.

Throughout this Report, the figures given for 1963 have been reclassified, as far as possible, according to the Standard Industrial Classification (Revised 1968) and to take account of the different treatment of parts adopted for 1968 so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, has been arbitrary.

METHOD OF CLASSIFICATION

In classifying returns to the mechanical engineering group of industries the value of unspecified work done (other than structural and installation work), including repair work, was not taken into account unless it amounted to 80 per cent. or more of the total output of the return in which case the return was classified to this industry. The amount charged for erecting and installing machinery and plant (other than air conditioning, heating and ventilating plant) was treated as part of the selling value of these items in determining the industrial classification of returns. The standard classification procedure as outlined in the notes on page (i) was further modified where a return would have been classified to one of the mechanical engineering industries relating to a specific class of machinery (viz Parts 50 to 66) but where the sales of the principal products of the industry concerned (including parts) accounted for less than 20 per cent. of the total output: in such cases the return was classified to the residual sub-division of this industry. The classification of returns to sub-divisions of the industry, shown in Table 4, followed the standard procedure.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

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(c) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(d) Administrative, technical and clerical employees.

(e) Excluding expenditure for establishments not yet in production.

(f) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968
United Kingdom (a) (b)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	3,476	4,932	
Number of establishments	"	3,705	5,221	
Gross output	£'000	364,697	527,953	
Net output	"	217,340	319,551	
Net output per head	£	1,291	1,771	
Sales and work done	£'000	goods produced and work done (c)	340,441	498,245
		merchanted goods and canteen takings	22,232	23,645
Purchases	"	materials for use in production and packaging and fuel	119,817	179,489
		goods for merchandising and canteen purchases	18,429	19,249
Payments to other organisations	"	for work done on materials given out for transport	6,791	10,121
		by road	2,395	2,508
		by rail and other means excluding postal services			899
Stocks and work in progress				
Total stocks and work in progress	"	change during year	+ 2,099	+ 9,928
		at end of year	92,317	136,777
Goods on hand for sale	"	change during year	+ 368	+ 1,862
		at end of year	25,284	37,324
Work in progress	"	change during year	+ 1,655	+ 4,200
		at end of year	36,655	53,096
Materials, stores and fuel	"	change during year	+ 76	+ 3,865
		at end of year	30,378	46,357
Number employed on average during the year	Th.	total, including working proprietors	168.4	180.4
		operatives	125.3	129.4
		other employees (d)	38.4	45.5
Wages and salaries	£'000	of operatives	89,852	127,009
		of other employees (d)	33,459	54,276
Capital expenditure (e)				
Total	"	20,483	23,892	
New building work	"	3,240	3,390	
Land and existing buildings (f)	"	1,316	12	
Plant and machinery (f)	"	14,964	18,905	
Vehicles (f)	"	963	1,608	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 26 per cent. of the total figures in which they were incorporated: of this, unsatisfactory returns accounted for 5 per cent. For 1963 the comparable figures were 19 per cent. and 3 per cent. respectively.

(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	2,869	4,444
Average number employed:		
Working proprietors	4,125	5,086
Other persons employed	24,377	37,841

Footnotes continued on page 66/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

(i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year (a)	Gross output	Net output	Net output per head
	Number	Number	Number	£'000	£'000	£
1-5	1,222	1,216	3,750	..	..	..
6-10	1,032	1,031	8,049	..	..	..
11-24	1,554	1,529	27,013	..	..	..
25-49	245	233	9,137	23,975	15,696	1,718
50-99	224	209	15,543	45,010	27,143	1,746
100-199	108	97	14,576	45,935	26,724	1,833
200-299	31	28	7,502	25,881	16,099	2,146
300-399	24	21	7,897	23,395	14,117	1,788
400-499	19	18	8,492	29,827	16,114	1,897
500-749	20	15	11,950	37,394	22,208	1,858
750-999	9	3	7,865	19,363	12,739	1,620
1,000-1,499	9	7	11,278	35,992	22,612	2,005
1,500-1,999	5	4	8,017	21,833	13,744	1,714
2,000 and over	11	10	30,654	80,236	48,217	1,573
Unsatisfactory returns	708	699	8,698	..	..	..
Total	5,221	4,932	180,421	527,953(c)	319,551(c)	1,771(c)

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	7,202	1,734	7,061	2,231	980	1,287
50-99	12,095	3,311	12,196	4,155	1,008	1,255
100-199	10,691	3,823	10,562	4,778	988	1,250
200-299	5,413	2,087	5,760	2,647	1,064	1,268
300-399	5,726	2,168	5,514	2,548	963	1,175
400-499	5,789	2,703	6,201	3,346	1,071	1,238
500-749	9,015	2,933	8,828	3,385	979	1,154
750-999	5,989	1,876	5,435	1,988	908	1,060
1,000-1,499	7,559	3,719	7,464	4,465	987	1,201
1,500-1,999	5,932	2,085	5,685	2,371	958	1,137
2,000 and over	22,562	8,092	21,438	9,229	950	1,141
Unsatisfactory returns	..	..	..	..	..	..
Total	129,365(c)	45,547(c)	127,009(c)	54,276(c)	982(c)	1,192(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	4	1	5
18 and over	75	20	95
All ages	79	21	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification, (Revised 1968).

Footnotes to Table 4.

- (a) Some establishments employing fewer than 25 persons were included in returns for larger establishments. These amounted to 29 establishments in 1968 and 80 in 1963.
- (b) The method of classifying returns to sub-divisions of the industry is explained in the notes; the characteristic products of each sub-division are identified in Table 5.
- (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) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).
- (e) Direct sales of goods (excluding canteen takings) made to, and work done for, the general public by larger establishments are included. These amounted to £54,000 in 1968. Similar information is not available for 1963.
- (f) Characteristic products relate only to specific sub-divisions of the industry.
- (g) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods produced and work done. For the industry as a whole, this is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (h) Progress payments received for work in progress in 1968 from United Kingdom customers were recorded as £317,000 at the beginning of year and £505,000 at the end of year; and from overseas customers £55,000 at the beginning of year and £33,000 at end of year. Similar information is not available for 1963.
- (i) Administrative, technical and clerical employees.
- (j) Excluding expenditure for establishments not yet in production.
- (k) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom(a)

	Unit	Sub-divisions of the industry (b)		
		Manufacture of bearings and parts thereof		
		10		
		1963	1968	
Number of enterprises (c)	No.	31	27	
Number of establishments	"	48	51	
Gross output	£'000	82,858	106,670	
Net output	"	49,272	60,988	
Net output per head	£	1,292	1,602	
Sales and work done	{ goods produced and work done (d)(e) merchanted goods and canteen takings	£'000	78,971	97,936
		"	4,263	7,192
Sales of characteristic products	"	76,176	92,554	
Index of specialisation (g)	Per cent.	96	95	
Purchases	{ materials for use in production and packaging, and fuel goods for merchandising and canteen purchases	£'000	29,780	39,689
		"	2,582	5,274
Payments to other organisations	{ for work done on materials given out for transport by road by rail and other means excluding postal services	"	418	784
		"	403	393
		"		161
Stocks and work in progress				
Goods on hand for sale	{ change during year at end of year	"	- 346	+ 672
		"	9,652	13,502
Work in progress (h)	{ change during year at end of year	"	- 29	+ 871
		"	10,787	14,807
Materials, stores and fuel	{ change during year at end of year	"	- 403	+ 617
		"	7,394	9,341
Number employed on average during the year	{ total including working proprietors operatives other employees (i)	No.	38,124	38,061
		"	29,543	28,238
		"	8,565	9,815
Wages and salaries	{ of operatives of other employees (i)	£'000	21,499	27,220
		"	6,886	11,010
Wages and salaries per head	{ operatives other employees (i)	£	728	964
		"	804	1,122
Capital expenditure (j)				
New building work	£'000	824	318	
Land and existing buildings	{ acquisitions disposals	"	710(k)	1
		"		35
Plant and machinery	{ acquisitions disposals	"	3,468	4,827
		"	127	472
Vehicles	{ acquisitions disposals	"	156	274
		"	50	91

For notes to this table - see page 66/5.

Sub-divisions of the industry (b)				Total	
Repair and jobbing work and other work on commission, sub-contract work, etc		Other engineering including precision chain manufacture			
31		20 and 32			
1963	1968	1963	1968	1963	1968
309	253	320	282	648	545
369	290	422	393	839	734
42,687	54,036	170,759	229,363	296,304	390,069
29,498	37,576	97,812	137,531	176,582	236,095
1,265	1,843	1,298	1,837	1,291	1,771
38,961	51,116	158,665	219,068	276,597	368,120
3,273	2,626	10,527	7,651	18,063	17,469
35,796	48,394	(f)	(f)	(f)	(f)
92	95	..	..	88	86
8,667	11,738	58,900	81,186	97,347	132,613
2,644	2,035	9,747	6,914	14,973	14,222
1,720	2,595	3,379	4,100	5,517	7,478
178	227	1,365	1,233	1,946	1,853
+ 120	- 80	+ 526	+ 784	+ 299	+ 1,376
1,151	1,146	9,739	12,928	20,543	27,576
+ 333	+ 373	+ 1,040	+ 1,859	+ 1,344	+ 3,103
3,091	3,610	15,902	20,812	29,781	39,229
+ 20	+ 208	+ 444	+ 2,031	+ 62	+ 2,856
1,965	2,335	15,322	22,574	24,681	34,250
23,312	20,393	75,355	74,847	136,791	133,301
18,891	16,163	55,885	53,886	104,319	98,287
4,133	4,010	19,243	20,780	31,941	34,605
14,377	17,353	38,942	51,923	74,818	96,497
4,138	5,313	16,815	24,914	27,840	41,237
761	1,074	697	964	717	982
1,001	1,325	874	1,199	872	1,192
431	247	1,377	1,939	2,632	2,505
193(k)	241	423	402	1,536	645
1,951	2,737	7,556	7,875	12,975	15,438
246	228	444	771	817	1,470
319	440	760	1,068	1,234	1,781
130	163	271	339	451	593

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
10	Bearings and parts thereof			£'000		
		£'000		£'000	Number	Number
	Ball and roller bearings and parts thereof, (excluding non-precision balls)	56,772	..	69,406	23	33
	Other bearings (eg plain) and bushes	22,808	..	26,012	44	53
	Total bearings and parts	79,580		95,418	..	..
20	Chains					
	Steel transmission					
	Roller type					
	Up to and including 0.625 in. pitch					
	Not over 0.2 in. width between plates	1,310	..	885	*	*
	Over 0.2 in. width between plates	2,913	..	4,570	*	*
	Over 0.625 in. pitch	4,381	..	5,087	8	11
	Other than roller type	1,308	..	1,672	9	14
	Precision chains, other than transmission chains	1,591	..	2,140	*	7
	Transmission chains of iron	299	..	411	*	*
	Total chains	11,802		14,765	..	..
32	Filters (excluding air filters for air-conditioning equipment, water filters and filter presses) (b)					
	Oil (other than for motor vehicles)	4,007	Thousands	361	212	21
	Other	4,034	..	5,178	3,858	34
32	Mechanical power transmission plant, not elsewhere specified					
	Complete	5,165	..	5,570	12	12
	Parts	1,458	..	1,369	11	11
32	Oil fuel burners					
	Domestic, up to 150,000 Btu/h	..	..	2,403	18	18
	Industrial, above 150,000 Btu/h	8,701	..	8,815	30	32
32	Other burners (other than oil fuel)					
		567	..	767	16	16
32	Railway and locomotive brake gear					
		3,688	Th. tons	9.6	1,097	12
			..	6,096	..	19
32	Rolls of iron and steel					
	For metal rolling mills	Th. tons				
	Cast iron	..	29.2	5,673	5	11
	Cast steel	72.8	..	4,223	8	12
	Forged steel	..	16.2	5,504	*	5
	For machinery, other than metal working	..	4.0	1,294	12	13

TABLE 5 (continued)

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
32	Cylinder liners and inserts	3,216	..	3,940	15	20
32	Gaskets and jointings (including metallic packings)	7,144	..	16,709	28	32
32	Gears and gear wheels (other than for vehicles)	12,820 (c)	..	22,419	98	112
32	Gear boxes, new and reconditioned, and parts thereof other than gears and gear wheels (d)					
	For railway locomotives and rail cars	209	..	1,593	7	9
	For ships and boats	238	..	400	8	9
	Other (except for vehicles)	11,183	..	17,444	78	81
32	Lubricators and parts (other than of railway wagon, etc, axle boxes)	3,585	..	4,652	21	21
		Th. tons		Th. tons		
32	Moulding boxes and parts thereof	3.1	550	3.3	510	12
32	Oil seals	5,072	..	7,248	10	10
32	Pistons	11,299	..	13,426	10	16
32	Piston rings, packing rings, etc	6,146	..	9,596	19	26
32	Pulleys and pulley wheels	2,345	..	2,013	30	30
32	Other and unclassified engineering products	44,170	..	45,934	383	410
	Other products	2,555	..	936	18	18
	Waste products					
	Scrap metals					
	Iron and steel	112	852	106	797	152
		..	110	..	113	..
	Brass	7.9	1,104	7.6	1,765	99
	Copper	1.6	356	..	205	32
	Other scrap metals	..	851	..	1,012	85
	Other waste products	..	81	..	153	20
	Work done					
	Machinery and plant erected and installed	3,484		8,852	39	39
31	Repair and jobbing work other than to agricultural machinery	81,531		115,357	1,136	1,358
31	Other work done on commission, sub-contract work, etc	49,696		47,624	466	530
	Total	383,321		484,940	..	..

Continued on next page.

TABLE 5 (continued)

Industry sub-division (a)	1963		1968			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
		£'000		£'000	Number	Number
Sales in other industries (see Table 6)		138,861		168,089	..	..
Principal products of this industry sold by establishments in the industry		244,460		316,852	545	633(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 establishments, not merely sales by establishments classified to the sub-division.
- (b) For 1963 described as 'Filters, other than water filters and filter presses'.
- (c) Including some gears and gear wheels for vehicles.
- (d) For 1963 described as 'Gear boxes, including steering boxes and differential gear'.
- (e) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963	1968		
	Value	Value	Entries	Principal industries in which produced (a)
	£'000	£'000	Number	
Bearings and parts thereof	2,748	3,425	33	44,48,64,79
Chains, steel and iron transmission and other precision chains	602	868	9	56,58,83,87
Filters (excluding air filters for air-conditioning equipment, water filters and filter presses)				
Oil (other than for motor vehicles)	517	813	14	61,63,82,97
Other	919	1,969	22	64,78,82,84
Mechanical power transmission plant, not elsewhere specified				
Complete	877	1,013	*	63
Parts	315	190	5	46,63,82
Oil fuel burners				
Domestic, up to 150,000 Btu/h	2,841	422	11	52,61,64,97
Industrial, above 150,000 Btu/h		2,003	21	46,52,64,82
Other burners (other than oil fuel)	211	219	10	52,56,61,64
Railway and locomotive brake gear	2,802	5,565	*	71,82,85,86
Rolls of iron and steel				
For metal rolling mills				
Cast iron and steel	6,622	126	7	44,63
Forged steel		5,504	5	44,95
For machinery, other than metal-working	265	154	8	46,63,97
Cylinder liners and inserts	142	200	9	54,63,65,74
Gaskets and jointings (including metallic packings)	1,182	2,865	13	52,63,71,111
Gears and gear wheels other than for vehicles	2,588	3,824	56	54,59,71,72
Gear boxes, new and reconditioned, and parts thereof other than gears and gear wheels				
For railway locomotives, rail cars, ships and boats	50	539	11	44,82,85
Other (except for vehicles)	755	2,493	38	52,54,65,97
Lubricators and parts (other than of railway wagon, etc, axle boxes)	836	205	12	52,58,70,82
Moulding boxes and parts thereof	54	71	*	56,97
Pulleys and pulley wheels	299	148	18	58,63,64,82
Other and unclassified engineering products	30,798	18,876	259	(b)
Work done				
Machinery and plant erected and installed	2,180	7,117	26	
Repair and jobbing work other than to agricultural machinery	61,012	83,741	1,136	
Other work done on commission, sub-contract work, etc	20,246	25,740	356	
Total	138,861	168,089	..	

- (a) The references given are to the list of industries at the front of this report.
- (b) Production is widely distributed.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968	
	Value	Value	Value	Value
	£'000	£'000	£'000	£'000
Castings and forgings of steel	1,244	2,286		
Iron castings in the rough or machined	869	2,847		
Wood, metal and plastic patterns	29	67		
Mechanical engineering				
Agricultural machinery, complete and parts	32	185		
Metal-working machine tools				
Metal cutting machine tools, complete and parts	1,381	1,188		
Other metal-working machine tools including re-conditioned complete and parts			314	
Pumps, valves and compressors				
Pumps				
Complete	347	1,382		
Parts			630	
Gas, compressors and exhausters and fluid power equipment, complete and parts		507		
Industrial valves and cocks, complete	532	1,583		
Air compressors and exhausters, complete and parts	274	1,861		
Industrial engines, complete and parts	119	582		
Textile machinery, complete, parts and accessories	1,168	190		
Construction and earth-moving equipment, complete and parts	1,311	764		
Mechanical handling equipment				
Conveyors, feeders, elevators, including skip hoists, complete	1,286	334		
Other mechanical handling equipment complete, and parts			702	
Mining machinery, complete and parts	486	273		
Printing, bookbinding and paper-working etc, machines, complete, parts and reconditioned	30	147		
Space heating, ventilating and air-conditioning equipment, complete and parts	341	2,845		
Food and drink processing machinery, complete and parts	104	131		
Miscellaneous (non-electrical) machinery				
Bottling, packing, canning, packeting and labelling machinery, complete and parts	11	148		
Other miscellaneous non-electrical machinery, complete and parts	2,691	4,401		
Industrial plant and steelwork				
Fabricated iron and steelwork	710	718		
Fabricated constructional work			77	
Industrial plant, complete and parts	1,297	445		
Ordnance and small arms, complete and parts	432	260		
Scientific and industrial instruments and systems, complete	628	338		
Electrical goods and machinery, complete and parts	925	1,471		
Marine machinery, complete and parts	530	645		

TABLE 7 (continued)

	1963		1968	
	Value	Value	Value	Value
	£'000	£'000	£'000	£'000
Components and parts for motor cars, commercial vehicles and tractors	5,369	10,926		
Aircraft parts and accessories	97	247		
Engineers' small tools and gauges, hand tools and implements				
Jigs and fixtures	114	316		
Press tools	1,723	87		
Other			870	
Stampings, pressings and drop forgings of iron and steel	285	443		
Miscellaneous metal manufactures				
Hand carts, trucks and trolleys, and parts	25	90		
Other miscellaneous metal manufactures	440	937		
Other products (including plastic goods)	3,425	6,183		
Work done				
Building and civil engineering work carried out in Great Britain including the erection of constructional steelwork and the erection and installation of air-conditioning, heating and ventilating plant, but not of complete process plant nor of other industrial machinery and plant and non-constructional steelwork (a)	909	845		
Machinery and plant erected and installed, other than shown in Table 5	26	627		
Research and development work	803	224		
Services rendered to other organisations (b)	2,146	2,151		
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	17,050	16,395		
Canteen takings	1,013	1,075		
Total	50,200	68,737		

(a) The data shown for 1963 are not comparable with those for 1968. Because of a change in the method of collection, the data for 1968 include goods made by firms and incorporated in their building and civil engineering work whereas the data for 1963 exclude such goods. For 1963 the value of goods made and used in building and civil engineering work amounting to £236,000 has been deducted from the gross figure for building and civil engineering (£1,145,000) in order to avoid duplication which arises because they have been included against the appropriate sales headings elsewhere in the Report. For 1968 duplication does not arise since goods made and used in building and civil engineering work were not shown additionally as sales elsewhere in the Report; it is estimated that these goods amounted to £629,000.

(b) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968

This table is not applicable to this industry.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production	Th. tons	£'000	Th. tons	£'000
Iron				
Pig iron, including refined pig iron and other irons for re-melting	66.0	1,647	..	1,165
Castings	36.4	3,122	36.5	4,543
	..	675	..	902
Steel				
Ingots, blooms, billets, slabs (including sheet/plate mill slabs and sheet bars)	4.7	335	8.6	628
	..	96	..	156
Bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares	144	13,113	188	13,550
	..	255	..	4,228
Plates, 3 mm. thick and over	28.0	1,367	41.0	2,352
	..	255	..	..
Sheets under 3 mm. thick (including electrical sheets)	8.3	647	10.1	1,003
	..	..	..	348
Hoop and strip (including tape of all thicknesses)	35.5	2,677	52.8	4,288
Tinplate and blackplate (a)	3.5	253	3.6	324
Forgings (except drop forgings)	..	2,486	..	3,476
Castings	..	1,457	9.8	2,021
	..	..	..	542
Drop forgings	9.1	1,090	7.8	1,459
Iron and steel not elsewhere specified except finished parts, wire and scrap				
Wrought tubes and fittings for wrought tubes (including welded, seamless, conduits, etc)	18.7	2,529	23.5	3,052
Other	10.5	1,402(b)	1.7	485
	..	249	..	259
Springs, laminated and other types	..	167	..	341
Steel wire and wire manufactures (excluding insulated wires and cables)				
Wire (single wire)	..	1,280	..	1,160
Wire manufactures (including wire cables and ropes and stranded wire of two or more ply)	..	437	..	207
Ferro-alloys	..	800	..	1,143
Iron and steel scrap	..	877	..	1,285
Light metals and non-ferrous metals in all forms except finished parts, wire and scrap				
Aluminium and aluminium alloys	12.9	3,726	8.7	3,434
	..	677	..	1,812
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys and cadmium copper) (c)	22.2	6,416	17.0	7,916
	..	..	..	1,061
Copper (including cadmium copper) (d)	5.1	1,406	5.5	2,656
Lead and alloys of lead (excluding solder)	0.7	55	2.0	183
Zinc and alloys of zinc	1.1	165	1.1	282
Tin	Th.cwt.		Th.cwt.	
	25.1	1,173	17.3	1,268

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)		£'000		£'000
Non-ferrous metal wire (single wire, not insulated)	..	49	..	203
Non-ferrous metal scrap	..	227	..	357
Metal powders	..	587	..	1,215
General chemicals (e)				
Inorganic (including inorganic gases)	..	..	..	332
Organic (including organic gases)	..	475	..	130
Other (eg mixtures of inorganic and organic chemicals)	..	..	..	381
Paint and varnish (including lacquers and stains)	..	188	Th.gal.	177
	..	..	..	24
Synthetic resins and plastics materials (excluding leathercloth and reinforced plastics)			Th.cwt.	
Polyethylene and polypropylene and copolymers: sheet, rod, film, profile shapes and monofilament	..	217	16.8	448
Phenolics and allied products: resins (the net resin content), solutions, emulsions, dispersions, moulding and extrusion compounds	Th.cwt.	165	..	468
	35.3	..	..	..
Laminated thermosetting sheet (including decorative), cast sheet, laminated or cast rod, tube and profile shapes	..	49	..	44
Thermosetting polyesters, including epoxide resins (the net resin content excluding filler) and resin glass fibre mixtures	..	28	6.6	98
Refractory materials	..	492	..	355
Manufactures wholly or mainly of rubber (including synthetic rubber), balata and gutta-percha, including sheeting, but excluding replacement parts for firms' own machinery, plant, vehicles, etc	..	1,036	..	1,333
Timber	..	117	..	118
Woven piece goods (other than narrow fabrics)	..	220	..	372
Asbestos in all forms (including finished parts)	..	408	..	1,159
Insulated wires, cables, strips and strands	..	174	..	173
Bolts, rivets, nuts and washers, screws, nails, tacks, etc	..	786	..	1,743
Machinery and plant bought for installation and erection	..	955	..	149
Purchased components for incorporation in firms' own products				
Ball and roller bearings and parts thereof	..	3,972	..	4,236
Electric motors				
Of less than 1 h.p.	..	617	..	808
Of 1 h.p. and over	..	418	..	925
Internal combustion engines	..	38	367	53
Industrial valves	..	237	..	281
Gears and gear wheels of metal	..	240	..	298
Pumps	..	506	..	803
Measuring instruments and gauges and parts				
Industrial process measuring and control instruments and equipment	..	289	..	906
Other	..	426	..	433
Plastic goods moulded and fabricated	..	196	..	312
Other components not elsewhere specified (excluding those of rubber and asbestos)	..	6,411	..	13,471

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)	Th.gal.	£'000	Th.gal.	£'000
Lubricating oils and greases (including cutting oils and emulsions)	2,965	714	2,801	752
	..	102	..	323
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	5,910	..	251
Other			..	6,397
All other materials for use in production	..	11,458	..	13,435
Packaging materials				
Paper and board				
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard	..	843	..	1,094
Fibreboard packing cases			..	59
Wrapping and packing paper (including paper coated with plastics and any laminates incorporating paper but not metal)			..	232
Other packaging materials of paper and paperboard (including moulded pulp units and labels, but excluding bags, multiwall paper sacks and paper and board for converting into packaging materials)	..	325	..	159
Timber				
Containers wholly or mainly of wood (including plywood boxes and drums) baskets and wickerwork crates	..	425	..	526
	Th.cu.ft.		Th.cu.ft.	
Timber (sawn or planed) for manufacture into packing cases, etc	155	75	82.3	77
	..	32	..	21
All other packaging materials	..	171	..	243
Fuel and electricity (f)	Th.tons		Th.tons	
Coal	104	654	66.3	423
			..	52
Coke (including screenings) and manufactured fuel	..	367	20.7	208
			..	29
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	1,906	405	2,199	606
	..	100	..	194
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	19,114	856	..	1,240(g)
	Th.therms		Th.therms	
Gas	18,582	1,075	16,119	1,257
	..	141	..	163
	Th.kWh		Th.kWh	
Electricity	515,793	2,600	723,497	4,628
	..	994	..	908
Total cost of materials and fuel		97,347		132,613
Goods purchased for merchanting		14,020		13,155
Canteen purchases		952		1,067
Total cost of purchases		112,320		146,835

(a) Terneplate was specifically included for 1963.

(b) Includes some unclassified iron and steel.

(c) For 1963 cadmium copper was not specifically excluded.

(d) For 1963 blister was specifically excluded.

(e) For 1963 described as 'Heavy chemicals (acids, alkalis, alcohols, other inorganic and organic chemicals, compressed gases, etc)'.

(f) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 1,511 Th.kWh in 1968 and 2,222 Th.kWh in 1963.

(g) For 1968, may include a small amount of fuels not covered by specific headings.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	1,049	1,156
Transport costs			
Wages and salaries	£'000	794	1,402
Derv fuel and motor spirit	"	504	799
Tyres and other spare parts for road goods vehicles	"	..	251
Payments to other organisations for transport	"	1,946	1,853
	{ by road		
	{ by rail and other means excluding postal services		664
Costs of operating road goods vehicles			
Insurance	"	82	97
Vehicle licences	"	60	126
Depreciation	"	392	560
Payments to other organisations for repairs and maintenance	"	196	290
Total	"	3,974(a)	6,043

(a) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.

TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	659	803
Road goods vehicles	196	290
Plant, machinery and other capital equipment	1,183	1,956
Insurance, licensing and depreciation of road goods vehicles (b)	534	783
Rates, excluding water rates	1,903	3,134
Hire of plant and machinery	738	874
Postage, telephone, telegrams, cables and telex (c)	1,313	1,868
Total	6,526	9,709

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.

(b) For details see Table 11.

(c) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
1968	Per cent.	Per cent.
April (a)	2.7	1.2
May	0.8	0.5
June	7.6	10.7
July	5.1	4.2
August	3.0	2.0
September	9.0	18.7
October	4.9	2.1
November	1.7	2.1
December	31.6	33.5
1969		
January	3.8	1.8
February	2.8	1.0
March	25.3	21.7
April (b)	1.7	0.5
	100	100

(a) From 6 April.

(b) To 5 April.