

THE AIRCRAFT TRADE

Note.—For information regarding the scope of the Census, instructions given to firms for making returns, and definitions of the terms used in this report, reference should be made to the Introductory Notes on pages v to xviii.

Introductory

This trade comprises firms that were engaged wholly or mainly in the construction of aeroplanes, airships, balloons and parachutes, and parts thereof. As separate particulars for England and Wales and for Scotland cannot be published for the year 1930 owing to the risk of disclosure of information relating to individual firms, the summary table (I) and the tables showing details of power equipment (IV) and coal, coke and electricity used (V) are not appended to this report. The whole of this information is available in the tables given in the report itself.

A separate schedule for this trade was not employed at the 1924 Census, particulars of the production of aircraft being returned mainly on schedules for the Motor and Cycle Trade. The figures for 1924 given in this report represent a special aggregation of all the returns which related predominantly to aircraft production and they are believed to be reasonably comparable with those shown for the year 1930.

The following table shows the main results of the Censuses of 1930 and 1924 in respect of firms in Great Britain that employed an average of more than ten persons:—

Particulars	Unit	1930	1924
Value of goods made and work done (Gross output)	£'000	8,688	4,554
Cost of materials used	"	2,866	1,452
Paid for work given out to other firms	"	245	23
Net output	"	5,577	3,079
Average number of persons employed	No.	21,322	11,735
Net output per person employed	£	262	262
Power available:—			
Prime movers	H.P.	3,853	2,994
Electric motors driven by purchased electricity...	"	14,955	3,951
Number of returns	No.	38	20
Number of establishments	"	47	*

* Not available.

Deficiencies in 1930 aggregates.—The aggregate number of persons employed in 1930 by firms that stated that they employed not more than ten persons on the average was 71; at the 1924 Census all firms that made returns employed more than ten persons. At both Censuses returns were made by all firms to which schedules were sent.

Size of firms.—In the following table the main particulars recorded at the Census of 1930 are grouped according to the average numbers of persons shown in the returns :—

Size of firms (average numbers employed)	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
11- 24 ...	4	19	12	69	170
25- 49 ...	5	88	55	171	321
50- 99 ...	4	109	64	284	225
100-199 ...	5	203	143	699	204
200-499 ...	4	310	192	1,212	158
750-999 ...	8	3,018	2,080	7,361	283
1,000 and over ...	8	4,941	3,031	11,526	263
TOTAL ...	38	8,688	5,577	21,322	262

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the principal areas* of Great Britain in which firms in this trade were situated :—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed	
	No.	£'000	£'000	No.	£	
1	1930	18	3,965	2,651	9,878	268
	1924	10	2,070	1,458	4,895	298
6	1930	13	3,724	2,244	8,865	253
	1924	6	1,488	877	3,625	242
Other areas	1930	7	999	682	2,579	265
	1924	4	996	744	3,215	231
TOTAL	1930	38	8,688	5,577	21,322	262
	1924	20	4,554	3,079	11,735	262

* For particulars see page xviii.

Northern Ireland.—No production of aircraft or parts thereof was recorded for Northern Ireland in 1930 or 1924.

Production

Principal products.—The following table shows the value and, where available, the quantity of aircraft and parts thereof completed in 1930 and 1924 :—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Aircraft Trade			All trades				
	Quantity	Value	Entries	Quantity	Value	Entries	Quantity	Value
	No.	£'000	No.	No.	£'000	No.	No.	£'000
Aeroplanes, complete, with or without engines fitted ...	1,456	3,365	20	1,459	3,376	21	503	1,904
Aeroplane engines, sold separately :—								
Complete ...	1,413	1,576	6	1,973	2,131	9	884	1,479
Parts ...	...	660	7	...	838	13	...	1,287
Other parts of aeroplanes ...	...	1,838	24	...	2,061	47	...	...
Airships, balloons and parachutes and parts thereof ...	...	51	3	...	51	3	...	7
TOTAL — PRINCIPAL PRODUCTS ...	...	7,490	...	...	8,457	...	...	4,677

Prices.—The average selling values of aeroplanes and aeroplane engines in 1930 and 1924, as calculated from the Census returns, are shown in the following table. It should be borne in mind that these comparisons do not take account of any changes of type, etc., that may have occurred since the earlier year.

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ each	£ each	Per cent.
Aeroplanes, complete, with or without engines fitted ...	2,314	3,786	61.1
Aeroplane engines, complete ...	1,080	1,672	64.6

Volume of production in 1930 and 1924.—The following table compares the volume of production of aircraft and parts thereof (including repair work) in 1930 and 1924:—

Kind of goods	Total production			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	Per cent.
Aeroplanes, complete, with or without engines fitted	£'000	£'000	£'000	
	3,376	1,904	1,163	290
Aeroplane engines:—				
Complete	2,131	1,479	955	223
Parts	838	1,287	806*	360
Other parts of aeroplanes	2,061			
Airships, balloons and parachutes and parts thereof	51	7	4*	†
Repair work	1,214	592	371*	327
Addition on account of work in progress (see page 363)	41	129	81*	...
TOTAL	9,712	5,398	3,380	287

* Based on average values of aeroplanes and aeroplane engines, complete.

† This figure would have no significance.

Production, exports and imports.—The following table shows the exports and retained imports in 1930 and 1924 of aircraft and parts thereof. Comparison with the quantities produced is not attempted since the export and import figures are compiled upon a somewhat different basis from those of production. So far as the latter figures are concerned the term *complete aeroplanes* includes aeroplanes without engines as well as those with engines fitted, whereas in the trade returns the term relates only to aeroplanes with engines fitted, those without engines being recorded, by value only, as *parts of aeroplanes, other than engines*.

Kind of goods	1930		1924	
	Exports	Retained imports	Exports	Retained imports
Aeroplanes, complete	Number	Number	Number	Number
	317	28	188	—
Parts of aeroplanes:—				
Engines	552	42	580	*
	£'000	£'000	£'000	£'000
Other parts	909	9	314	20
Parts of airships and balloons	1	1	9	1

* Re-exports 25 in excess of imports.

Other products.—In addition to the output shown in the table of principal products on page 361, the following goods were produced in 1930 and 1924 by firms that made their returns on schedules for the Aircraft Trade. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Kind of goods	1930	1924
	Value	Value
	£'000	£'000
Parts and accessories for motor vehicles	12	133*
Manufactures of iron, steel, brass and other metals	36	4
Manufactures of wood	3	23
TOTAL VALUE	51	160

* Including some complete vehicles.

Repair and other work done.—The total amount received for repair work done on aircraft in 1930 was recorded as £1,214,000, of which £231,000 was returned on schedules for other trades. The corresponding total for 1924 was £592,000. In addition, sums of £123,000 and £21,000 were returned for 1930 and 1924 respectively in respect of other work done.

Work in progress.—The value of the work in progress at the beginning of 1930 was returned as £2,016,000 as compared with £2,057,000 at the end of the year. Work in progress at the beginning of 1924 was valued at £633,000 and at the end of the year at £762,000. Work in progress at the end of the year represents the estimated value of unfinished aeroplanes, etc., that were in course of construction at the end of the year, and work in progress at the beginning of the year represents a similar estimate for aeroplanes, etc. in course of construction at that time, some or all of which would represent goods completed within the year. The amount by which the value of the work in progress at the end of the year exceeded that at the beginning, viz. £41,000 for 1930, should be added to the value of the goods completed in order to arrive at the value of the output attributable to that year, and an addition of £129,000 is similarly required in respect of the value of the output in 1924.

Employment and Wages

Employment.—The following table shows the average numbers of persons employed in 1930 and 1924 :—

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
1930						
Operatives (average for the year)	2,030	16,545	171	1,050	2,201	17,595
Administrative, technical and clerical staff (as at 18th October)	260	2,911	188	816	448	3,727
TOTAL	2,290	19,456	359	1,866	2,649	21,322
1924						
Operatives (average for the year)	1,011	9,302	113	700	1,124	10,002
Administrative, technical and clerical staff (as at 18th October)	106	1,339	58	394	164	1,733
TOTAL	1,117	10,641	171	1,094	1,288	11,735

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 212-3.

Power

The following table shows the capacity of prime movers, electric generators and electric motors ordinarily in use and in reserve or idle in 1930 and 1924 :—

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
PRIME MOVERS						
Reciprocating steam engines	H.P. 300	H.P. —	H.P. 300	H.P. 300	H.P. —	H.P. 300
Internal combustion engines :—						
Gas	1,513	1,085	2,598	1,858	172	2,030
Petrol, kerosene, or other light oils	23	20	43	70	—	70
Heavy oils	852	60	912	557	37	594
TOTAL	2,688	1,165	3,853	2,785	209	2,994

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
ELECTRIC GENERATORS						
Driven by						
Reciprocating steam engines	Kw. 180	Kw. —	Kw. 180	Kw. 180	Kw. —	Kw. 180
Internal combustion engines :—						
Gas	890	724	1,614	956	5	961
Petrol, kerosene, or other light oils	—	22	22	36	—	36
Heavy oils	540	40	580	397	7	404
TOTAL	1,610	786	2,396	1,569	12	1,581
ELECTRIC MOTORS						
Driven by						
Electricity generated in same works	H.P. 1,662	H.P. 90	H.P. 1,752	H.P. 3,544	H.P. 35	H.P. 3,579
Purchased electricity	14,251	704	14,955	3,801	150	3,951
TOTAL	15,913	794	16,707	7,345	185	7,530

Consumption of fuel

The following table shows the quantities of coal, coke and electricity recorded as used in 1930 :—

Kind of fuel used	For power (driving engines)		For other purposes
	Tons	Tons	
Coal	1,184	10,379	
Coke	—	6,669	
Electricity used for all purposes :—			B.T.U. (Kw.-hrs.) '000
Generated in same works	...	...	1,332
Purchased	...	...	13,239
TOTAL—Electricity			14,571

TABLES

Note.—Owing to the possible disclosure of information relating to individual firms, separate particulars for England and Wales and for Scotland cannot be given.

I. Summary of results (see page 359)

II. Production

Goods sold or added to stock and work done	Quantity	Value
	Number	£'000
Aeroplanes, complete, with or without engines fitted ...	1,456	3,365
Aeroplane engines :—		
Complete	1,413	1,576
Parts ... ..	...	660
Other parts of aeroplanes ... ..	...	1,838
Airships, balloons and parachutes and parts thereof ...	...	51
TOTAL VALUE—Aircraft and parts ... ..	...	7,490
Parts and accessories of motor cars ... ..	...	12
Manufactures of iron, steel, brass and other metals ...	...	36
Manufactures of wood ... ..	...	3
Repair work ... ..	...	983*
Other work ... ..	...	123*
TOTAL ... ..	...	8,647
<i>Plus</i> Value of work in progress at the end of 1930 ...	...	2,057
<i>Less</i> Value of work in progress at the beginning of 1930	...	2,016
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) ... ..	...	8,688

* Amount received for work done.

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
Operatives	2,062	16,805	174	1,067	2,236	17,872
Administrative, technical and clerical staff	260	2,911	188	816	448	3,727
TOTAL	2,322	19,716	362	1,883	2,684	21,599

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females	Week ended	Males and females
January 18	17,451	July 19	18,040
February 15	17,240	August 16	17,779
March 15	17,196	September 13	17,730
April 12	16,642	October 18	17,872
May 17	17,484	November 15	17,958
June 21	17,890	December 13	17,856
AVERAGE FOR THE TWELVE MONTHS			17,595

IV. Power (see page 364)

V. Consumption of fuel (see page 365)