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AIRCRAFT AND PARTS MANUFACTURERS

1961

The list of firms normally included in this report has been omitted from this issue, along with certain tables. See introductory text for details.

ANNUAL CENSUS
OF MANUFACTURES

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SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:

- ... figures not appropriate or not applicable.
- nil or zero.

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1961 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and for major industry groups. Implementation of the new definition of the establishment in the 1961 Census has resulted in certain changes and necessitated some adjustments to the statistics for previous years in order to maintain comparability of the data. (See following note on "Establishment".)

Industry statistics given in these reports refer to number of establishments, employees, salaries and wages, cost of materials, supplies, fuel and electricity, gross value of shipments, inventories and value added by manufacturing. Details of materials used and products shipped are also given. Descriptions of the principal industry statistics, with special reference to 1961, are as follows:

Period Covered

Firms are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where the firms find it impossible to supply calendar year data from accounting records. However the data on employees, salaries and wages are requested on a calendar year basis in all cases.

Establishment

The reporting unit in the Census of Manufactures is the **establishment**. Beginning with the 1961 Census, the establishment is defined as follows:

The smallest unit which is a separate operating entity capable of reporting all the following:

- Materials and supplies used,
- Goods purchased for resale as such,
- Fuel and power consumed,
- Number of employees and their pay,
- Inventories,
- Shipments or sales.

The establishment is to be distinguished from smaller subdivisions or departments which do not have records which permit them to report all items required of an establishment. Prior to 1961, some establishments were required to submit two or more separate reports when they were engaged in operations which were classifiable to different industries. Beginning with 1961, separate reports for such operations will be required only in cases where accounting records can provide all the elements of principal statistics enumerated above. Special reporting arrangements were made with respondents when the acceptance of combined reports would have seriously affected the statistics for particular industries or areas. Where continuity of industry statistics was affected by this change in reporting procedures, adjustments to the data were made back to 1957 in order to maintain comparability of the series for recent years.

A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing operations. Prior to 1961, the Census of Manufactures attempted to cover the manufacturing activities of all establishments, whether or not they were principally engaged in manufacturing operations. Beginning with the 1961 Census, establishments (accounting entities) which are not primarily engaged in manufacturing are no longer included as manufacturing establishments in the basic industry statistics. Again adjustments to the industry statistics were made to reflect the removal of such reporting units for the period 1957-1960. These reporting units are now listed as establishments in other Bureau industry surveys, such as Wholesale Trade, Construction, etc. In order, however, to maintain complete coverage of certain commodity items produced mainly in manufacturing establishments, many non-manufacturing establishments are now surveyed for commodity shipments only and the latter are included in those tables of industry reports showing shipments of certain commodities "from all industries".

Many firms have more than one manufacturing establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements described earlier.

Prior to 1961, the main emphasis in the Census of Manufactures was on manufacturing activity whereas, beginning with 1961, each establishment reports on the total operations carried out within its accounting boundaries (except income from investments such as rent, interest and dividends). However, data on different activities (manufacturing, selling, construction by own labour force etc.) are requested separately. The 1961 statistics in this report are confined to manufacturing activity in order to maintain comparability with previous years. In the 1962 reports it is planned to show both 1961 and 1962 data on the "total activity" basis in addition to the data on manufacturing operations.

Employees

Administrative and office employees include all executives and supervisory officials such as presidents, vice-presidents, secretaries, treasurers, etc., together with managers, professional and technical employees, superintendents and factory supervisors above the working foremen level, and clerical employees. Working owners and partners are also included in this category but will be shown separately in subsequent years.

Production and related workers include all other factory workmen whether paid on a monthly, weekly, hourly or piece-work basis. Working foremen doing work similar to that of the employees they supervise are included, as are maintenance, handling, warehousing and delivery staff. Employees on new construction work, in retail or wholesale operations, on outside piece work, etc, are not included.

Production workers are reported by months, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months. Figures on employment refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Salaries and Wages

Salaries and wages refer to gross earnings of the employees described above, including salaries, wages, commissions, bonuses, the value of room and board where provided, deductions for income tax and social services such as sickness and unemployment insurance, pensions, etc., as well as any other allowances forming part of the employees' wages. Payments for overtime are included.

Salaries refer to amounts paid to administrative and office employees. Withdrawals by working owners or partners for normal living expenses for self and family are included with salaries, but will be shown separately in subsequent years. Wages refer to the amounts paid to production and related workers as defined above. Data on earnings refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Cost of Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars and trucks), not to purchases unless the quantities are the same. Values refer to the laid-down cost at the establishment including freight, duty, etc.

Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the establishment, of materials, supplies and components actually used during the year whether purchased from others or received as transfers from other plants of the reporting company. Amounts paid to other manufacturers for work done on materials owned by the reporting company are included. Returnable containers or any other items charged to capital account are not included. Fuels are not included. Goods bought from others or received as transfers from other plants or reporting companies for resale without further processing are not included. Maintenance and repair supplies not chargeable to capital account are included.

Factory Shipments

Factory shipments generally refer to shipments of goods made from own materials either in the reporting establishments or by other manufacturers on the basis of a charge to the reporting establishment for work done. All products and by-products shipped from the establishment are included whether for domestic use, export, or for government departments. Transfer shipments to sales outlets, distributing warehouses or to other manufacturing units of the reporting firm which are treated as separate establishments are included. Goods bought or received as transfers and resold without further processing are not included. Values are requested

on f.o.b. establishment basis, and do not include sales tax or excise duties. Values of containers not returnable are included. Amounts received in payment for work done on materials owned by others are included.

In a few industries such as shipbuilding, aircraft, etc., where work on principal products extend over a relatively long period, the value of production is recorded rather than the value of shipments. For those industries production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on finished units delivered in the year under review.

Inventories

Values represent the book value of manufacturing inventory. Figures consist of inventory at the plant and at warehouses or selling outlets which are treated as extensions of the plants for the purpose of reporting shipments.

Value added by Manufacturing

Value added is compiled by deducting the cost of materials, fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process). Value added is sometimes referred to as net production.¹

Standard Industrial Classification

The revised Standard Industrial Classification which was introduced with the 1960 Census of Manufactures provides for a breakdown of the universe into 140 industries arranged in 20 major groups compared with 135 industries in 17 major groups in the old classification which was used in the compilations for the years 1949 to 1959 inclusive. Full details are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

Establishments engaged solely in repair work are not included in manufacturing industries (except in the case of furniture, shipbuilding, boat building, aircraft and railroad rolling stock industries) but establishments principally engaged in assembling parts into complete units are included.

¹ To arrive at the National Accounts concept of "gross domestic product at factor cost", it would be necessary to subtract also the cost of advertising, insurance and other business costs which are not collected in the annual Census of Manufactures. Value added figures for the primary industries, manufacturing and construction are published in D.B.S. publication 61-202, Survey of Production.

Short Forms

Since 1949, in order to ease the reporting burden for smaller firms, a one-page short form has been used asking only for certain principal items of shipments. For purposes of publication, missing data were estimated on the basis of appropriate ratios. For the 1959 and 1960 censuses the general limit for short forms was raised from \$50,000 to \$100,000 value of shipments and a new intermediate form was used. This form is a shortened version of the long form in that some of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the short and inter-

mediate forms there are lower cut-offs for a number of industries in which the smaller firms account for a larger share of total shipments.

In the 1961 Census, in addition to the question on shipments of goods of own manufacture, questions on employment and payroll and on total revenue were added on all short forms. The other elements of principal statistics, viz. value of materials, fuel and electricity, and inventories, are generally estimated by using ratios based on the change in the value of shipments from year to year. This is to permit the complete compilation of basic industry statistics by industry and by geographic location. The proportion of the estimated data is generally less than 5 per cent of the total in each category of principal statistics.

AIRCRAFT AND PARTS MANUFACTURERS

1961

Data presented in this report under the heading of Aircraft and Parts Manufacturers reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept which are being used by the Dominion Bureau of Statistics in its compilation of 1961 industry statistics—see item "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report. For statistical purposes the industry titled Aircraft and Parts Manufacturers in the revised Standard Industrial Classification covers establishments primarily engaged in manufacturing aeroplanes, gliders, balloons and aircraft parts, such as engines, propellers and pontoons. The repair and overhaul of aircraft are included in this industry. The manufacture of aeronautical instruments is classified in Industry No. 381—Scientific and Professional Equipment Manufacturers.

The introduction of the new definition of establishment (reporting units) in the 1961 Census of Manufactures has resulted in certain changes and necessitated some adjustments to the statistics. In the case of the industry under review such changes were minimal as evidenced in the comparative series of statistics presented in Tables 1A and 1B. Table 1A shows data according to the "old" concept while Table 1B reflects the implementation of the "new" or revised Standard Industrial Classification and the New Establishment Concept for the years 1957 to 1961.

As a result of increased work loads and staff shortages it has been necessary to suspend publication of certain tables normally contained in this report. It is planned to resume publication of these tables in the 1962 reports. In general the tables affected are the following: Directory of firms—Imports—Exports—Capital and Repair Expenditures.

Note 1: Prior to 1957 this industry included only the plants which were principally engaged in assembling aircraft or in making aircraft parts but including any servicing or overhauling of aircraft done by these plants as a minor part of their operations. In 1957, due to a change in statistical concept this industry was expanded to include the plants which were primarily engaged in the servicing and overhaul of aircraft. It does not include overhaul and servicing depots maintained by the major airlines and operated by them as part of their transportation system.

Note 2: Figures for value added by manufacture prior to 1960 were obtained by subtracting the cost of materials used, including fuel and electricity, from the value of production. The "Value added" figures in Table 1B take into account the change in finished goods inventory to accommodate products such as aircraft parts reported in terms of factory shipments rather than production.

TABLE 1A. Principal Statistics of the Aircraft and Parts Industry, Significant Years, 1929 - 59

Basis: Standard Industrial Classification in use prior to 1960

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost of materials at plant	Value added by manufacture	Gross selling value of products
	number					dollars	
1929	4	217	401,666	7,303	727,832	305,710	1,040,845
1933	5	147	169,053	7,934	97,677	239,606	345,217
1937	8	606	691,934	23,762	879,654	827,308	1,730,724
1939	13	3,596	4,651,615	100,668	1,428,168	11,109,634	12,638,470
1944	45	79,572	161,055,010	2,593,792	137,734,065	286,653,701	426,981,558
1946	16	11,405	24,459,085	787,180	6,708,468	28,715,258	36,210,906
1949	14	10,725	27,443,498	1,070,016	24,315,084	35,713,975	61,099,075
1955	52	33,036	130,269,009	4,683,562	140,831,164	208,800,111	354,314,837
1956	52	35,563	146,428,014	4,084,546	138,155,854	212,269,685	354,510,085
1957 ¹	70	41,616	179,699,179	4,831,700	148,546,515	271,064,498	424,442,713
1958 ¹	75	39,932	182,276,877	4,660,674	176,538,577	281,131,994	462,331,245
1959 ¹	78	28,516	142,484,904	3,684,751	127,937,264	195,911,616	327,533,631

¹ See Note 1 to text.

Note: Profits or losses cannot be calculated from above figures as data are not available for general expense items, such as interest, rent, depreciation, taxes, insurance, advertising, etc.

TABLE 1B. Principal Statistics, Aircraft and Parts Manufacturers, by Provinces, 1957-61

Basis: Revised Standard Industrial Classification and New Establishment Concept

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost of materials at plant	Value added by manufacture	Gross value of production
	number		dollars				
1957							
Nova Scotia and Manitoba ..	4	2,726	9,456,513	241,125	5,924,718		19,565,455
Quebec	22	15,776	67,906,499	1,506,546	58,453,792		160,958,773
Ontario	33	21,836	97,190,199	3,037,122	90,332,796		226,059,254
Alberta	5	1,574	6,065,865	65,146	1,533,040	¹	9,126,800
British Columbia	4	225	885,765	46,662	448,722		1,551,734
Canada	68	42,137	181,504,841	4,896,601	156,693,068		417,262,016
1958							
Nova Scotia and Manitoba ..	4	2,499	8,913,419	285,662	5,068,196	14,362,959	19,727,373
Quebec	25	14,449	66,292,029	1,495,714	73,867,497	107,970,778	184,442,693
Ontario	35	22,025	102,663,178	2,867,180	109,799,703	132,909,132	245,915,675
Alberta	5	1,329	5,628,902	57,917	1,347,428	7,035,632	8,440,977
British Columbia	5	240	1,008,929	28,504	994,947	922,641	1,946,092
Canada	74	40,542	184,506,457	4,734,977	191,077,771	263,201,142	460,472,810
1959							
Nova Scotia and Manitoba ..	5	2,329	8,981,578	265,498	4,991,000	13,168,480	18,467,533
Quebec	26	14,137	69,058,615	1,488,262	50,729,178	90,226,183	142,357,859
Ontario	33	10,878	59,232,974	1,876,384	78,820,280	73,378,043	154,663,249
Alberta	6	1,277	5,474,367	57,579	1,248,286	6,795,530	8,099,633
British Columbia	7	471	2,113,145	87,518	1,945,151	4,128,169	6,160,838
Canada	77	29,092	144,860,679	3,775,241	137,733,895	187,696,405	329,749,112
1960							
Nova Scotia and Manitoba ..	5	2,241	8,882,491	251,690	5,331,854	11,497,032	17,086,752
Quebec	26	14,830	75,264,488	1,487,076	58,090,776	107,272,341	167,522,579
Ontario	35	8,423	40,236,713	1,418,360	50,998,190	53,039,081	106,272,580
Alberta	9	1,239	5,540,791	72,916	1,191,838	6,814,941	8,078,250
British Columbia	7	350	1,650,028	73,848	2,268,839	2,515,893	4,858,580
Canada	82	27,083	131,574,511	3,303,890	117,881,497	181,139,288	303,818,741
1961							
Nova Scotia, Manitoba and Saskatchewan	6	2,124	8,797,234	216,920	4,993,437	10,740,127	15,950,484
Quebec	25	15,239	80,035,191	1,497,548	93,628,990	102,659,737	195,771,801
Ontario	32	9,613	46,529,977	1,206,638	56,242,248	68,660,524	123,465,052
Alberta	9	1,099	5,035,345	59,158	1,035,665	6,307,258	7,403,348
British Columbia	8	311	1,532,375	36,031	1,945,115	3,717,342	5,654,488
Canada	80	28,386	141,930,122	3,016,295	157,845,455	192,084,988	348,245,173

¹ Because of lack of inventory data, "Value added" is not available for 1957.

TABLE 2. Inventories:¹ Aircraft and Parts Manufacturers, 1961

	Raw materials and supplies	Goods in process ²	Finished goods of own manufacture	Total
	dollars			
Opening:				
Nova Scotia, Manitoba and Saskatchewan	1,282,971	866,222	—	2,149,193
Quebec	9,889,508	29,709,215	3,117,476	42,716,199
Ontario	17,166,160	8,624,472	2,013,150	27,803,782
Alberta	414,556	16,363	3,267	434,186
British Columbia	1,295,184	588,910	—	1,884,094
Canada	30,048,379	39,805,182	5,133,893	74,987,454
Closing:				
Nova Scotia, Manitoba and Saskatchewan	1,203,416	1,012,862	—	2,216,278
Quebec	13,151,022	39,416,442	5,131,950	57,699,414
Ontario	17,210,313	8,562,643	4,657,508	30,430,464
Alberta	219,196	9,845	2,000	231,041
British Columbia	813,579	713,972	44,000	1,571,551
Canada	32,597,526	49,715,764	9,835,458	92,148,748

¹ Book value of all manufacturing inventories owned and held at plant and plant warehouses.² Adjusted to allow for progress payments.**TABLE 3. Products Made: Aircraft and Parts Manufacturers, 1961**

Products	Selling value at works
	\$
Aircraft and engines being built but not completed at year-end (value of work done on same during 1961)	95,827,906
Modifications, conversions, servicing, overhaul and repairs to aircraft, engines, etc. during 1961 (value of work done)	65,917,083
Aircraft parts manufactured during 1961	108,506,947
All other products made in this works in 1961 ¹	200,828,111
Total of above items	471,080,047
Less value of work done in 1960 on aircraft and engines completed in 1961	118,787,616
Less adjustments for value of sales taxes, excise duties and outward transportation charges which were not deducted from individual commodity items detailed above	4,047,258
Total net production	348,245,173

¹ Includes completed aircraft. Only 2 firms reporting, therefore, separate details cannot be shown.**TABLE 4. Principal Statistics classified according to Type of Ownership: Aircraft and Parts Manufacturers, 1961**

Type	Estab-lish-ments	Em-ployees	Salaries and wages	Cost of fuel and electricity	Cost at plant of materials used	Gross value of production
	number		dollars			
Incorporated companies	75	28,365	141,856,689	3,009,297	157,794,955	348,080,930
Other ownership	5	21	73,433	6,998	50,500	164,243
Totals	80	28,386	141,930,122	3,016,295	157,845,455	348,245,173

**TABLE 5. Principal Statistics grouped according to Value of Production:
Aircraft and Parts Manufacturers, 1961**

Establishments reporting value of production	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity	Cost at plant of materials used	Gross value of production
	number			dollars		
Under \$10,000	3	6	18,903	1,798	8,000	24,852
\$ 25,000 to \$ 49,999	6	18	63,901	4,400	62,554	121,688
50,000 " 99,999	13	150	539,819	15,930	232,947	900,661
100,000 " 199,999	10	172	822,420	20,439	318,772	1,572,265
200,000 " 499,999	8	272	1,210,871	354,920	26,810,018	43,083,138
500,000 " 999,999	13	1,010	4,611,664	472,565	22,091,861	39,688,334
1,000,000 " 4,999,999	18	5,844	26,527,436	1,624,407	82,705,263	99,134,461
5,000,000 and over	9	20,914	108,135,108	521,836	25,616,040	163,719,774
Totals	80	28,386	141,930,122	3,016,295	157,845,455	348,245,173

TABLE 6. Employees and Their Earnings: Aircraft and Parts Manufacturers, 1961

Province	Employees					Earnings		
	Supervisory and office		Production and related workers		Total em- ployees	Supervisory and office	Production and related workers	Total earnings
	Male	Female	Male	Female				
	number					dollars		
Nova Scotia, Manitoba and Saskatchewan	423	212	1,474	15	2,124	2,664,622	6,132,612	8,797,234
Quebec	3,934	1,052	10,068	185	15,239	31,578,261	48,456,930	80,035,191
Ontario	2,434	741	6,261	177	9,613	18,153,480	28,376,497	46,529,977
Alberta	167	101	813	18	1,099	1,291,304	3,744,041	5,035,345
British Columbia	43	26	242	—	311	417,253	1,115,122	1,532,375
Canada	7,001	2,132	18,858	395	28,386	54,104,920	87,825,202	141,930,122

TABLE 7. Production Workers, by Months: Aircraft and Parts Manufacturers, 1961

Month	Establishments reporting monthly detail ¹	
	Male	Female
January	17,923	352
February	18,141	359
March	17,872	369
April	17,791	367
May	17,953	369
June	17,933	355
July	17,659	347
August	17,711	357
September	17,857	359
October	18,346	358
November	18,821	366
December	18,806	372
Average for establishments reporting monthly detail	18,071	362
Average estimated for small establishments ²	787	35
Average for all establishments	18,858	395

¹ The number of production workers by months was collected only for large establishments.

² The monthly detail of production workers was not collected from small establishments. Only annual averages were collected from these establishments.

TABLE 8. Fuel and Electricity Used: Aircraft and Parts Manufacturers, 1961

Kind	Quantity	Cost at plant
		\$
1. Establishments reporting commodity detail: ¹		
Bituminous coal:		
(a) From Canadian mines ton	3,134	36,711
(b) Imported "	13,709	148,717
Sub-bituminous coal (from Alberta mines only) "	503	7,657
Coke "	252	3,125
Gasoline (including gasoline used in cars and trucks) Imp. gal.	1,535,267	519,526
Fuel oil including kerosene or coal oil "	7,946,424	639,032
Gas:		
(a) Liquefied petroleum gases "	139,930	20,998
(b) Other manufactured gas M cu. ft.	15,464	9,838
(c) Natural gas "	359,801	184,033
Other fuel "	...	2,049
Electricity purchased kwh.	137,273,664	1,324,157
Steam purchased "	...	21,685
2. Estimate for establishments for which no data were collected: ²		
Cost of fuel and electricity	98,767
3. All establishments:		
Total cost of fuel and electricity	3,016,295

¹ Establishments reporting commodity detail.² Establishments not reporting commodity detail.

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