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EXPLOSIVES AND AMMUNITION MANUFACTURERS
1960

First Issue

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OF MANUFACTURES



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ESTIMATED YIELD

SYMBOLS

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

.. figures not available.

... figures not appropriate or not applicable.

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1960 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. Adoption of the revised Standard Industrial Classification for 1960 compilations has necessitated changes in titles of many reports in this annual series. The content of many industries has also been affected (see following note on Industrial Classification).

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 1960 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

Data for the annual census is collected on an establishment basis. A firm with more than one plant is required to file a report for each plant. In most cases an establishment is a complete factory; sometimes, however, a plant is divided into two or more establishments when it carries out operations classifiable to different industries and when separate accounting records are available. Usually the statistics for an establishment relate only to the manufacturing activities. Other activities such as construction at the plant by its own employees, wholesale or retail activities carried on at the plant location, etc., are not included. Plants engaged solely in repair work (except in the case of furniture, shipbuilding, boat building, aircraft and railway rolling stock industries) are not included but plants occupied in assembling parts into complete units are included.

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.

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, ware-

housing and delivery staffs. 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 calendar years 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 but not their withdrawals for income tax. 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 works, including freight, duty, etc.

Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the works, of materials and supplies 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 refer to shipments of goods made from own materials either in the reporting plant or by other manufacturers on the basis of a charge to the reporting plant 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 are included. Goods bought or received as transfers

and resold without further processing are not included. Values are computed on f.o.b. plant or plant warehouse 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 values of manufacturing inventories owned and held at the reporting plant. Figures include inventories held in warehouses or selling outlets which have been included with plant operations for purposes of reporting shipments.

Value added by Manufacturing

Figures are computed from value of shipments plus or minus changes in inventories of finished goods and goods in process less cost of materials, fuel and electricity. This figure is sometimes referred to as net production.¹

Standard Industrial Classification

The revised Standard Industrial Classification which has been 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. It incorporates changes considered desirable on the basis of experience in using the earlier classification as well as those which take account of changes in the structure of Canadian industries associated with the rapid developments of the past decade. 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.

Many industries remain unchanged in the new classification but in many instances there have been substantial changes in content because of the shifting of establishments from one industry to another or in re-grouping of establishments. Where

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 office supplies used, advertising, insurance and other goods and services obtained from other businesses. Data on these inputs are not collected on the annual Census of Manufactures. Value added figures for "The primary industries and construction" are published in D.B.S. publication 61-202, *Survey of Production*.

changes have occurred the principal statistics for 1957, 1958 and 1959 have been re-compiled to provide data on a basis comparable with those for 1960.

Short Forms

Between 1949 and 1957, in an effort to ease the reporting burden for smaller firms, a short form was used asking for the total value of shipments only or, in a few cases where losses of detail were significant, for quantities and values of principal products. For purposes of publication, missing data were estimated on the basis of appropriate ratios. In general the cut-off point for these short forms was set at \$50,000 value of shipments. About 40% of the total number of establishments reported on the short form and accounted for less than 3 per cent of the total value of shipments.

In 1958, in order to establish a new base year, the small firms were asked to report all items of principal statistics together with some detail on materials and products.

For the 1959 Census, the short form was used again, but further steps were taken to ease the respondents' burden. First, the general limit for short forms was raised to \$100,000 value of shipments. In addition, a new intermediate form was developed. This form is a shortened version of the long form in that most 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 intermediate forms there were lower cut-offs for a number of industries in which the smaller firms accounted for a larger share of total shipments. On the other hand, limits were raised where this could be done without a significant loss of coverage. On most of the short forms for 1959, in addition to total value of shipments, data on principal products were requested. In a few industries, where loss of employment and earnings data were considered too large because of higher cut-offs, a question on total payroll was placed on the short form. This practice was followed again in 1960.

The intermediate and long forms provide complete data for the compilation of all elements of principal industry statistics and the details of materials and products. The one-page short form, although containing data on principal products and total value of shipments, does not request information on other elements of principal statistics such as value of inventories, materials, fuel and electricity and, in most cases, employment and salaries and wages, nor does it contain detailed data on volume and value of materials used. For purposes of compiling aggregates of principal statistics by industry and by geographic location, the missing data for each establishment were estimated for 1959 by using, in general, ratios based on the change in the value of shipments between 1958 and 1959. The proportion of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

EXPLOSIVES AND AMMUNITION MANUFACTURERS

1960

Data presented in this report under the heading of Explosives and Ammunition Manufacturers reflect implementation of the revised Standard Industrial Classification (SIC) which is being used by the Dominion Bureau of Statistics in its compilation of 1960 industry statistics — see item "Standard Industrial Classification" in the Explanatory Notes section of this report. The present paper constitutes the first published report in this series for Explosives and Ammunition Manufacturers. Comparable figures for this industry under the heading of Explosives, Ammunition and Pyrotechnics Industry have been compiled for a number of years but were included in the total for The Miscellaneous Chemical Products Industry because of the small number of firms involved. With the entry of a major producer in 1957 it became possible to make available separate figures for this industry for 1958 and 1959

and these along with the 1960 figures are presented in Table 1. For statistical purposes the industry titled Explosives and Ammunition Manufacturers in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing explosives; ammunition, including mines, bombs and depth charges; safety and detonating fuses; fireworks of all kinds; flares and railroad fuses.

There were 12 establishments classified as Explosives and Ammunition Manufacturers in 1960; 6 were in Quebec, 3 in Ontario and 1 each in Manitoba, Alberta and British Columbia. Employees in this industry numbered 5,249; salaries and wages totalled \$23,793,262; materials used in manufacturing processes cost \$27,506,012; and factory shipments were valued at \$67,123,575.

TABLE 1. Principal Statistics, 1958 - 60: Explosives and Ammunition Manufacturers

Year	Estab-lish-ments	Em-ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture	Selling value of factory shipments
	number		dollars				
1958	13	6,173	24,836,378	1,894,456	33,850,631	34,368,725	68,987,833
1959	14	5,739	24,293,859	1,725,240	36,775,255	36,779,835	75,873,443
1960	12	5,249	23,793,262	1,707,552	27,506,012	39,357,600	67,123,575

TABLE 2. Inventories: Explosives and Ammunition Manufacturers, 1960

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening	17,414,175	6,663,195	5,035,817	29,113,187
Closing	14,130,388	8,406,773	4,739,828	27,276,989

TABLE 3. Employees and Their Earnings: Explosives and Ammunition Manufacturers, 1959 and 1960

Year	Employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
	number					dollars		
1959	1,494	538	2,926	781	5,739	10,530,235	13,763,624	24,293,859
1960	1,428	511	2,684	626	5,249	10,747,525	13,045,737	23,793,262

TABLE 4. Production Workers, by Months: Explosives and Ammunition Manufacturers, 1960

Month	Male	Female	Total
January	2,811	765	3,576
February	2,799	731	3,530
March	2,759	679	3,438
April	2,805	639	3,444
May	2,714	616	3,330
June	2,849	607	3,456
July	2,812	609	3,421
August	2,734	609	3,343
September	2,660	565	3,225
October	2,557	562	3,119
November	2,402	558	2,960
December	2,294	566	2,860
Average	2,684	626	3,310

TABLE 5. Fuel and Electricity Used: Explosives and Ammunition Manufacturers, 1960

Kind	Quantity	Cost at plant
		\$
Bituminous coal:		
(a) From Canadian mines	ton 15,943	184,035
(b) Imported	" 11,862	132,230
Lignite coal	" 483	3,293
Gasoline (including gasoline used in cars and trucks)	Imp. gal. 146,198	38,519
Fuel oil including kerosene or coal oil (not including lubricating oil)	" 7,808,237	568,971
Gas: (a) Liquefied petroleum gases	" 18,900	5,558
(b) Other manufactured gas	M cu. ft. 133	105
(c) Natural gas	" 291,678	110,565
Other fuel	" ..	7,452
Electricity purchased	kwh 68,093,571	627,111
Steam purchased .....	...	29,713
Total cost of fuel and electricity .....	...	1,707,552

TABLE 6. Imports and Exports of Explosives and Ammunition, 1959 and 1960

Item	1959		1960	
	Quantity	Value	Quantity	Value
	lb.	\$	lb.	\$
(a) Imports				
Binitrotoluol, trinitrotoluol, and perchlorate of ammonia, for explosives	4,283,438	323,645	4,945,493	413,468
Nitrate compounds n.o.p., for explosives	717,180	81,932	613,094	68,163
Blasting and mining powder	51,000	7,493	132,000	17,580
Dynamite and nitro-glycerine	14,603	8,201	13,550	5,495
Fireworks, fire crackers and torpedoes, all kinds .....	..	265,651	..	190,935
Fuse, non-metallic .....	..	10,479	..	6,618
Gun, rifle, sporting, cannon, musket, and cannister powder	573,152	393,978	391,300	394,962
Explosives n.o.p.	752,622	351,914	3,702,008	853,741
Shot gun, shells .....	..	150,935	..	184,838
Cartridges, metallic (ammunition) .....	..	305,407	..	279,910
Cartridge cases, gun wads, percussion caps and primers .....	..	82,774	..	63,439
Ammunition n.o.p. ....	..	3,352,500	..	1,536,046
(b) Exports				
Cartridges for guns, rifles, and other fire arms .....	..	184,588	..	341,783

Directory of Firms: Explosives and Ammunition Manufacturers, 1960

Name of firm	Location of plant
Quebec:	
Canadian Arsenals Limited	Nitro
Canadian Arsenals Limited	Palace Hill, Quebec
Canadian Arsenals Limited	St. Paul L'Ermité
Canadian Industries Limited	Brownsburg
Canadian Industries Limited	McMasterville
Canadian Safety Fuse Company Limited	Brownsburg
Ontario:	
Canadian Industries Limited	Nobel
Du Pont of Canada Limited	Nipissing
Hand, T.W. Fireworks Company Limited	Cooksville
Manitoba:	
Canadian Industries Limited	Brainerd
Alberta:	
Canadian Industries Limited	Ogden
British Columbia:	
Canadian Industries Limited	James Island

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