UNITED STATES TARIFF COMMISSION

FUEL INJECTION PUMPS AND NOZZLES: WORKERS OF AMERICAN BOSCH DIVISION, AMBAC INDUSTRIES, INC., SPRINGFIELD, MASS.

Report to the President on Investigation No. TEA-W-81
Under Section 301 (c)(2) of the Trade Expansion Act of 1962

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UNITED STATES TARIFF COMMISSION

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C O N T E N T S

Tables

Note.--The whole of the Commission's report to the President may not be made public since it contains certain information that could result in the disclosure of the operations of an individual concern. This published report is the same as the report to the President, except that the above-mentioned information has been omitted. Such omissions are indicated by asterisks.

REPORT TO THE PRESIDENT

U.S. Tariff Commission,
April 27, 1971.

To the President:

In accordance with section 301(f)(1) of the Trade Expansion Act of 1962 (76 Stat. 885), the U.S. Tariff Commission herein reports the results of an investigation made under section 301(c)(2) of the act in response to a petition filed by a group of workers.

On February 26, 1971, the International Union of Electrical, Radio and Machine Workers, AFL-CIO, and its affiliated Local Union 206, filed a petition for a determination of eligibility to apply for adjustment assistance on behalf of the workers of the Springfield, Mass., plant of American Bosch Division, AMBAC Industries, Inc. The Commission instituted the investigation (TEA-W-81) on March 10, 1971, to determine whether, as a result in major part of concessions granted under trade agreements, articles like or directly competitive with the fuel injection pumps and nozzles produced by American Bosch Division, at Springfield, Mass., are being imported into the United States in such increased quantities as to cause, or threaten to cause, the unemployment or underemployment of a significant number or proportion of the workers of the Springfield plant.

Public notice of this investigation was given in the Federal Register of March 16, 1971 (36 F.R. 5020). No public hearing was requested by any party showing a proper interest in the subject matter of the investigation, and none was held.

The information herein was obtained from the International Union of Electrical, Radio and Machine Workers and its affiliated Local Union 206; from American Bosch Division, AMBAC Industries, Inc.; from domestic producers and importers of fuel injection pumps and nozzles for diesel engines; from Mack Trucks, Inc.; and from the Commission files.

FINDING OF THE COMMISSION

On the basis of its investigation, the Commission finds unanimously that articles like or directly competitive with the fuel injection pumps and nozzles produced in the Springfield, Mass., plant of American Bosch Division, AMBAC Industries, Inc., are not, as a result in major part of concessions granted under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, the unemployment or underemployment of a significant number or proportion of the workers at the plant.

CONSIDERATIONS SUPPORTING THE COMMISSION'S FINDING

This investigation was undertaken in response to a petition for adjustment assistance that was filed on behalf of the workers of the Springfield, Mass., plant of American Bosch Division, AMBAC Industries, Inc. The petition sought adjustment assistance for laid-off workers who produced fuel injection pumps and nozzles for diesel engines.

The Commission has frequently stated that the Trade Expansion Act of 1962 establishes four criteria to be met before an affirmative determination can be made. Those criteria are as follows:

(1) The imports in question must be increasing;

(2) The increased imports must be a result in major part of concessions granted under trade agreements;

(3) The workers producing the like or directly competitive article must be unemployed or underemployed, or threatened with unemployment or underemployment; and

(4) The increased imports resulting in major part from trade-agreement concessions must be the major factor in causing or threatening to cause the unemployment or underemployment.

If any of the above criteria is not satisfied in a given case, the Commission must make a negative determination. In the Commission's judgment, the fourth criterion has not been met in the case at hand, i.e., the increased imports have not been the major factor causing the recent curtailment of employment at the plant.

American Bosch has been one of the leading U.S. producers of fuel injection equipment for many years. The output of such equipment

(pumps, nozzles, and nozzle holders) accounted for *** percent of the total value of shipments from the Springfield plant during 1966-70. Fuel injection equipment for both the commercial and military markets has been produced in substantial volume at the Springfield plant.

In recent years shipments of fuel injection equipment for the military market from the Springfield plant have fluctuated widely; such shipments increased in value from * * * in 1966 to * * * in 1968, but then declined to * * * in 1970. Military shipments represented * * * of the total value of the plant's shipments of fuel injection equipment in 1967 and 1968, but only * * * in 1969, and * * * in 1970. The abrupt decline in the absolute and relative importance of military shipments, which were not subject to import competition, was the principal factor affecting the level of operations at the Springfield plant in 1969 and 1970.

The decline in the level of military shipments, in the Commission's judgment, was the major cause of the recent decline in employment of workers at the Springfield plant. Based on the firm's data, a large majority of the production and maintenance workers laid off at the Springfield plant, * * * percent in 1969 and * * * percent in 1970, were allocated to military production. The number of workers producing military pumps and nozzles declined sharply in 1969 and 1970; the average number so employed in the fourth quarter of 1970 was only * * * the number in the first quarter of 1969. By contrast, the number of workers producing commercial pumps and nozzles was relatively stable during the 1969-70 period.

Finally, U.S. imports of fuel injection pumps, including unit injectors, although increasing somewhat in recent years, have remained small. Such imports were valued at $2.2 million in 1970, when they represented only 2 percent of the value of apparent domestic consumption. Imports of nozzles, which supply a higher share of apparent U.S. consumption (12 percent in 1970 based on value), did not increase their market penetration during recent years.

Since all of the requirements of the statute have not been met, the Commission has made a negative determination.

INFORMATION OBTAINED IN THE INVESTIGATION

Description and uses of the articles under investigation

Fuel injection pumps and nozzles are used to supply and disperse measured amounts of fuel into the combustion chambers of compression-ignition (diesel) engines. Most pumps produced by American Bosch Division, AMBAC Industries, Inc., are of two basic designs--the conventional in-line pump and the distributor type. In the in-line version there is a separate plunger and barrel assembly for each fuel delivery outlet (one per engine cylinder). These assemblies are arranged in a single housing in a straight line or a V configuration. In the distributor-type pump there is a single slotted plunger and barrel assembly, and the fuel is delivered to the appropriate fuel delivery outlet by means of the plunger slot, which is rotated in accordance with the firing sequence of the engine.

Fuel injection pumps are usually equipped with a fuel supply pump; an automatic timer, which adjusts fuel delivery to engine speed; and a governor to maintain engine speed or prevent overspeeding. These devices are usually attached to the exterior of the in-line pump housing, whereas they are often built into the distributor-type pump. A fuel injection pump complete with the aforementioned devices, together with a fuel filter, fuel delivery pipes, nozzle holders, and nozzles, constitute a fuel injection system.

A nozzle is a device which atomizes and distributes fuel into the combustion chamber. A nozzle holder locks the nozzle in the engine

cylinder or cylinder head and connects the nozzle with the fuel delivery pipe from the pump.

Injection pump and nozzle elements are manufactured to exceptionally close tolerances in order to assure satisfactory sealing (without special sealing rings) under very high operating pressures. The clearances between plunger and barrel and nozzle body and valve elements are held to about one ten-thousandth of an inch. Because plunger and barrel and nozzle body and valve elements are precision fitted to each other by lapping, they are replaced as complete assemblies.

Fuel injection pumps are often subject to intensive use and adverse operating conditions. Modern pumps, except for such high-wear parts as the barrel and plunger, may last for the life of an engine. Nozzles, however, are subjected to the high heat and pressures of the combustion chamber and must be replaced periodically, much like the spark plugs in a gasoline engine.

In addition to the previously described pumps, many diesel engines are equipped with so-called unit injectors, which combine the functions of the fuel injection pump, the fuel delivery pipe, the nozzle holder, and the nozzle. A separate injector, which is mounted on the cylinder head of the engine, is required for each cylinder. This type of equipment is used on most diesel engines produced by General Motors.

Fuel injection pumps and nozzles, or unit injectors, are used in all diesel-powered equipment, principally in diesel-powered trucks and busses and agricultural tractors. Diesel engines are also used to power construction machinery, general industrial machinery, ships and boats, generators for electricity, and locomotives.

U.S. tariff treatment

Under the Tariff Act of 1930 (prior to August 31, 1963) fuel injection pumps and nozzles were subject to a number of possible classifications as "parts," depending on the article with which they were determined to be chiefly used. A pump, if chiefly used with an agricultural tractor engine, was admitted duty free under paragraph 1604 as a part of an agricultural implement. A basically identical pump could have been dutiable under paragraph 369(c) as a part of a truck, under paragraph 370 as a part of a noncarburetor-type motorboat engine, under paragraph 353 as a part of a noncarburetor-type engine having as an essential feature an electrical element or device, or under paragraph 372 as a part of a noncarburetor-type engine not having as an essential feature an electrical element or device. The tariff rates applicable to fuel injection pumps and nozzles under

these provisions, as modified by trade-agreement concessions, from 1930 through August 30, 1963, are shown in the table below.

Fuel injection pumps and nozzles: U.S. rates of duty, under the Tariff Act of 1930, 1930-63 1/

(In percent ad valorem)

Year	Par. 1604	Par. 369(c)	Par. 370	Par. 353 2/			Par. 372 2/	
1930	Free	25	30	35	35	35	27.5	27.5
1939	Free	15	30	17.5	35	35	17.5	27.5
1948	Free	12.5	15	10	35	35	10	27.5
1950	Free	12.5	15	10	17.5	17.5	10	17.5
1956	Free	11.5	15	10	17.5	17.5	10	16.5
1957	Free	11	15	10	17.5	17.5	10	15.5
1958	Free	10.5	15	10	17.5	17.5	10	15
1962	Free	9.5	13.5	10	17.5	15.5	10	15
1963	Free	8.5	12	10	17.5	14	10	15

1/ The rates shown for 1963 were effective through Aug. 30 of that year.

2/ The rate applicable to fuel injection pumps and nozzles entered under pars. 353 and 372 was determined by the weight and design of the engine with which the pump and nozzles were chiefly used.

The 1930 rates were the statutory rates established by the Tariff Act of 1930. The 1939 rate reductions were negotiated in a bilateral trade agreement with the United Kingdom; all other rate changes resulted from trade-agreement concessions negotiated under the General Agreement on Tariffs and Trade (GATT).

Upon adoption of the Tariff Schedules of the United States (TSUS) on August 31, 1963, fuel injection pumps for compression-ignition engines and parts thereof, regardless of end use, became dutiable as pumps for liquids under item 660.90. Nozzles for use with these pumps became dutiable as parts of compression-ignition engines under item 660.54.

The Tariff Schedules Technical Amendment Act of 1965 (TAA), effective December 7, 1965, divided item 660.90 into two items--item 660.92, covering fuel injection pumps for compression-ignition engines and parts thereof, and item 660.94, covering all other pumps for liquids. The TAA also established a new rate of duty, 6 percent ad valorem, for fuel injection pumps to reflect the fact that the greater part of the imports under the previous tariff schedules had consisted of pumps for use on agricultural implements which had been entered free of duty. The rates applicable to fuel injection pumps and parts thereof and nozzles since August 30, 1963, are shown in the table below.

Fuel injection pumps and nozzles: U.S. rates of duty, 1963-72

(In percent ad valorem)

Date and basis for change	Fuel injection pumps and parts (item 660.92)	Nozzles (item 660.54)
1963 (Aug. 31), adoption of the TSUS	1/ 12	10
1965 (Dec. 7), Technical Amendments Act	6	10
1968, GATT concession (Kennedy Round)	5	9
1969, GATT concession (Kennedy Round)	4.5	8
1970, GATT concession (Kennedy Round)	4	7
1971, GATT concession (Kennedy Round)	3.5	6
1972, GATT concession (Kennedy Round)	3	5

1/ Item 660.90.

Pursuant to the Automotive Products Trade Act of 1965 (APTA) fuel injection pumps and nozzles if imported from Canada, for use as original motor vehicle equipment, have been duty free under items 660.93 and 660.55, respectively. These provisions were proclaimed by the President to be retroactive to January 18, 1965, following approval of the APTA on October 21, 1965.

In addition, fuel injection pumps and nozzles can also enter under TSUS item 807.00. Under the provisions of this item, which has never been the subject of a trade-agreement concession, articles assembled abroad in whole or in part of U.S. fabricated components are dutiable at the rates specified for the article, but with deductions for the value of the U.S. fabricated components contained therein. As of January 1, 1971, there had been no known imports entered under this item; however, one firm indicated that it planned to use this provision to enter fuel injection pumps beginning in 1971.

U.S. production and consumption

U.S. production and consumption of fuel injection pumps is determined principally by the level of U.S. production of diesel engines. Production of these engines is influenced by such factors as the demand for capital equipment and the relative merits of diesel power versus other power sources in specific applications. Production and consumption of nozzles, because of the extensive use of nozzles in the replacement market, are affected more by the cumulative total of diesel engines in service than by annual production of engines.

The total value of U.S. production of fuel injection pumps for diesel engines, including unit injectors, as reported to the Commission by eight U.S. producers, which account for virtually all of the U.S. output, averaged about $108 million a year during 1966-70. During this period the value of production ranged from $102 million in 1967 to $116 million in 1969 (table 1). The value of U.S. production of nozzles increased annually during the same period, rising from $14 million in 1966 to $20 million in 1970.

The value of apparent U.S. consumption of fuel injection pumps, including unit injectors, and nozzles in recent years has been less than that of U.S. production, principally because of large exports of high-value pumps and nozzles by * * *. * * *.

U.S. production of fuel injection pumps by American Bosch and its principal competitors for sale in the open market 1/ declined irregularly from * * * units, valued at * * *, in 1966 to * * * units, valued at * * *, in 1970. U.S. consumption of these pumps followed the same general trend as that of U.S. production; however, apparent consumption was somewhat greater than

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1/ For the purpose of this report, pumps and nozzles "produced by American Bosch and its principal competitors for sale in the open market" exclude unit injectors which are distinctively different in design and are not interchangeable with American Bosch pumps and nozzles. Likewise it excludes pumps and nozzles produced by major diesel engine manufacturers for installation on engines produced by the same firms. These firms normally do not sell injection equipment to other engine manufacturers.

production because U.S. imports exceeded U.S. exports in each of the years 1966-70 (table 2).

U.S. production of nozzles by American Bosch and its principal competitors for sale in the open market increased from * * * units, valued at * * *, in 1966 to * * * units, valued at * * *, in 1968 and 1969, and then declined to * * * units, valued at * * *, in 1970. U.S. consumption of these nozzles increased from * * * units in 1966 to * * * in 1968 and then declined slightly to * * * in 1969 and 1970.

U.S. imports

Virtually all imported diesel engines are equipped with injection pumps and nozzles, or unit injectors, of foreign origin at the time of importation. The imports of finished engines create a market for imports of fuel injection pumps and nozzles for use as replacement parts in servicing the imported engines. 1/ Additionally, imported pumps and nozzles are being used in increasing quantities as original equipment in the manufacture of diesel engines in the United States.

Imported nozzles, designed to be used interchangeably with domestically produced units, are being used extensively to replace U.S.-produced nozzles in the "after" market. These so-called will-fit nozzles are being entered by subsidiaries of foreign nozzle producers,

1/ Both domestic and foreign pump manufacturers tend to tailor their pumps for specific engines, and an injection pump produced by one manufacturer is generally not substitutable for that made by another firm. However, certain pump models, particularly those produced by American Bosch and Robert Bosch (Germany) are interchangeable, with minor modifications.

by automotive parts wholesalers, and by large service centers for diesel engines.

Fuel injection pumps and nozzles.--U.S. imports of fuel injection pumps and nozzles are not reported separately in U.S. trade statistics, but data are available for the combined imports of injection pumps and parts for these pumps. Nozzles are included in a class that covers other diesel engine parts and parts of nonpiston-type internal combustion engines. Imports of fuel injection pumps and parts declined in value from $4.6 million in 1966 to $4.0 million in 1967 and then increased annually to $5.9 million in 1970 (table 3). Information obtained by the Tariff Commission staff indicates that more than half of this trade consisted of parts of pumps for sale in the replacement market.

West Germany has been the leading supplier of imported pumps and parts, accounting for about 45 percent of the total value in 1970. In that same year Italy supplied about 20 percent of the total (virtually all of its share consisting of parts), and Japan and the United Kingdom supplied about 12 percent each.

Data developed from responses to the Commission's questionnaire (table 2) indicate that annual imports of fuel injection pumps of a type produced by American Bosch increased during 1966-70 from * * * units to * * * units, or from * * * percent of apparent U.S. consumption in 1966 to * * * percent in 1970. During the same period imports of nozzles of a type produced by American Bosch ranged from * * * units in 1969 to * * * units in 1970, or from * * * percent of apparent consumption in 1969 to * * * percent in 1970.

Diesel engines.--In addition to imports of fuel injection pumps per se, pumps and nozzles enter installed on imported diesel engines. Such engines enter under TSUS item 660.42, or, if a Canadian article and original motor-vehicle equipment, under item 660.43. They also enter under item 660.40, which provides for piston engines for agricultural machinery. Engines entered under item 660.40 can be either diesel or spark-ignition units but are believed to be primarily diesel. The trend in imports of these engines by TSUS item during 1966-70 is shown in the table below.

Diesel engines and engines for agricultural machinery: U.S. imports for consumption, 1966-70

(In thousands of units)

Item	1966	1967	1968	1969	1970
660.42 (diesel)	35	28	35	48	49
660.43 (diesel)	-	-	1	15	-
660.40 (engines for agricultural machinery)	67	64	70	66	75
Total	102	92	106	129	124

Source: Official statistics of the U.S. Department of Commerce.

The bulk of the imported engines, 76 percent in 1970, came from the United Kingdom, and most of the remainder, 18 percent, from West Germany. Imports from Canada of diesel engines for original motor-vehicle equipment (item 660.43) were insignificant in every year except 1969, when they accounted for 12 percent of the total.

Imported diesel engines accounted for about 25 percent of apparent consumption in each of the years 1966-70 (table 4). These imports frequently supplement rather than compete with domestic

production. In recent years such engines have generally been entered by U.S. vehicle and engine builders to round out their product lines.

Imports of pumps and nozzles which entered installed on diesel engines are estimated, on the basis of one injection pump and six nozzles per engine, in the table below.

Pumps and nozzles entered on diesel engines: U.S. imports, estimated, 1966-70 1/

Item	1966	1967	1968	1969	1970
Pumps----------units--	89,000	79,000	91,000	101,000	109,000
Nozzles---1,000 units--	534	474	546	606	654

1/ The data shown here are based on the assumption that engines entered from Canada under item 660.43 were not equipped with foreign-produced injection pumps and nozzles and that 20 percent of the engines entered under item 660.40 were gasoline engines which do not use injection pumps and nozzles.

AMBAC Industries, Inc.

AMBAC Industries, Inc., the parent concern of the American Bosch Division, was founded in 1919 as the American Bosch Magneto Corp. It acquired certain U.S. property of Robert Bosch, GMBH, Stuttgart, Germany, from the Alien Property Custodian after World War I. In 1954, American Bosch merged with the Arma Corp. The firm operated as American Bosch Arma Corp. until it took its present name in 1968.

AMBAC's total sales in 1970 were valued at $156 million; they included components and accessories for motor vehicles, guidance and navigation devices, marine communication equipment, and other specialized apparatus for commercial and military markets. AMBAC operates

through 19 divisions and subsidiaries in nine States and in four foreign countries.

American Bosch Division, Springfield, Mass., is the largest of AMBAC's subsidiaries and divisions. Operations in Springfield include production, sales, and research and engineering. These operations are housed in several buildings containing more than 600,000 square feet of floor space. A portion of the production facilities are housed in the original building erected for the U.S. subsidiary of Robert Bosch, GMBH, in 1910.

Shipments.--Current production at the Springfield plant consists primarily of fuel injection pumps and nozzles and nozzle holders. These articles are produced for both commercial and military markets. Other work performed at the plant includes contract machining and the production of hydraulic accumulators for use on petroleum pipelines.

* * * * * * *

Prices.--In developing price data, the staff concentrated on three products: (1) the APE-6BB pump, * * * (2) the Model 100 pump, * * * and (3) nozzles which are high volume production items.

* * * * * * *

Employment.--Average annual employment at the Springfield plant declined from * * * employees in 1966 to * * * in 1970 (table 7). * * *.

The average number of hourly workers allocated to the production of commercial pumps and nozzles in 1966-70 and the first quarter of 1971 ranged between * * * in 1966 and * * * in 1967. Workers producing military pumps and nozzles in that period peaked at * * * in 1967 and then declined to * * * in the fourth quarter of 1970. 1/ Salaried employees declined from * * * persons in 1968 to * * * in the first quarter of 1971.

Table 8 shows layoffs and recalls of production and maintenance workers in the same period as shown in table 7. The years 1966 and 1967 were primarily characterized by a transfer of workers from commercial to military production with few layoffs. In 1968, recalls of commercial pump and nozzle workers were more than offset by layoffs of workers making military pumps and other products. During 1969, layoffs increased to * * *, of which * * * percent were allocated to military production. Of the * * * layoffs in 1970, * * * percent were allocated to military production. The recalls during the first quarter of 1971 brought the number of commercial pump and nozzle workers close to the 1968 level; however, this increase may be temporary. * * *

1/ Since individual workers may perform essentially identical operations on military and commercial pumps and components, the allocation of employment between military and commercial production is necessarily based on the firms accounting data.

* * * * * * *

The plant is situated within the Springfield-Chicopee-Holyoke major labor area. This area has been classified as an area of "substantial unemployment" by the U.S. Department of Labor 1/ since July 1970. Based on annual averages this labor area was one of "moderate unemployment" through 1969. The trend of unemployment, in the Springfield-Holyoke area in 1966-70 is shown in the table below.

Average unemployment in Springfield-Chicopee-Holyoke labor area, 1966-69, 1/ December 1969, and December 1970

Item	1966	1967	1968	1969	Dec. 1969	Dec. 1970 2/
Number of persons unemployed---1,000--	9.4	10.0	10.2	10.2	10.3	15.6
Rate---percent--	4.3	4.6	4.6	4.6	4.6	6.9

1/ Data for the full year 1970 are not available.
2/ Data are preliminary.

1/ Unemployment in the area is equal to 6 percent or more of the work force, and the rate is anticipated to remain at 6 percent or more during the next 2 months, discounting temporary or seasonal factors.

Statistical Appendix

Table 1.--Fuel injection pumps, including unit injectors, and nozzles for diesel engines: U.S. production, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

Item and year	Production	Imports	Exports	Apparent consumption	Ratio of imports to consumption
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	Percent
Fuel injection pumps, including unit injectors					
1966	113,659	1,145	5,594	109,210	1
1967	101,694	1,313	4,724	98,283	1
1968	103,879	1,478	4,871	100,486	1
1969	115,775	1,624	5,222	112,177	1
1970	107,153	2,244	5,982	103,415	2
Nozzles					
1966	13,829	1,611	2,406	13,034	12
1967	14,286	1,714	2,608	13,392	13
1968	15,584	1,813	2,732	14,665	12
1969	19,791	1,356	3,358	17,789	8
1970	20,771	2,310	4,223	18,858	12

Source: Compiled from data obtained in response to U.S. Tariff Commission questionnaires.

Table 3.--Fuel injection pumps for diesel engines and parts: 1/
U.S. imports for consumption, by principal sources, 1966-70

(In thousands of dollars)

Source	1966	1967	1968	1969	1970
West Germany	2,869	1,972	2,162	2,082	2,664
Italy	805	1,440	1,410	1,282	1,173
Japan	21	204	309	549	695
United Kingdom	729	198	410	451	685
Netherlands	8	9	142	362	311
Other 2/	168	170	108	115	328
Total 2/	4,600	3,993	4,541	4,841	5,856

1/ Data do not include the value of imports of nozzles and nozzle holders which for tariff purposes are considered to be parts of engines.

2/ Includes imports from Canada valued at 44 thousand dollars in 1966, 20 thousand dollars in 1967, 11 thousand dollars in 1968, 10 thousand dollars in 1969, and 19 thousand dollars in 1970 that were entered duty free under the provisions of the Automotive Products Trade Act of 1965.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 4.--Diesel engines: U.S. producers' shipments, imports for consumption, exports of domestic merchandise, and apparent consumption, 1966-70

Year	Producers' shipments	Imports 1/	Exports	Apparent consumption 1/	Ratio of imports to consumption 1/
	Number	Number	Number	Number	Percent
1966	2/ 351,050	102,003	24,510	2/ 428,543	2/ 24
1967	337,146	91,969	26,230	402,885	23
1968	358,694	105,871	27,397	437,168	24
1969	392,053	129,238	30,532	490,759	26
1970	3/	123,614	32,984	3/	3/

1/ U.S. imports are overstated because they include gasoline (spark-ignition) engines for installation in tractors suitable for agricultural use and in other agricultural machinery. Such imports are believed to be small.

2/ Estimated by the staff of the U.S. Tariff Commission.

3/ Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.