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REPORT

*Competitive Position
of the U.S. Gear Industry
in U.S. and Global Markets
A Summary*

In May of this year the U.S. International Trade Commission made public its Report to the President on the condition of the U.S. gear industry. This 200+-page document is the result of a two-year study by the commission, with the help of the AGMA staff and members. It is the most comprehensive and current analytical coverage of industry conditions and trends presently available. Because of the importance of this report to the industry, GEAR TECHNOLOGY is devoting a good portion of this issue to reprinting the Executive Summary for our readers.

I strongly encourage you to study this summary carefully. It contains both good news and bad news for our industry and a great deal of food for thought. Now the IMTS, where the larger global machine tool market gathers in Chicago to display the newest machinery available, is nearly upon us, providing even more ideas and food for thought. There is no better time to consider the state of our industry and what our strategies for growth, development, research, and investment should be. The Trade Commission has supplied us with the facts we need to plan for the future; it is up to us to use this information to our advantage.

For complete copies of the USITC report, write to Kenneth R. Mason, Secretary to the Commission, U.S. International Trade Commission, Washington, D.C. 20436.

Michael Goldstein
Editor/Publisher

In March 1989, the U.S. Trade Representative requested the U.S. International Trade Commission to conduct an investigation and prepare a report on the competitive position of the U.S. gear industry in U.S. and global markets. The USTR request makes the following observation regarding the U.S. gear industry:

"The U.S. gear manufacturing industry produces components that are essential to most industrial and transportation equipment. The industry, which has experienced a dramatic increase in imports since 1983, is unable to assess properly its trade concerns because U.S. government and private data on the industry's production and trade composition are fragmented and incomplete. The American Gear Manufacturers Association has formally requested assistance providing the industry with a comprehensive set of objective data."

The diversity of the group of companies that comprises the U.S. gear industry complicates the collection and compilation of data on the gear industry. However, through a questionnaire survey of U.S. gear producers, importers, and distributors, as well as domestic and international interviews with industry experts, the Commission

was able to develop a considerable database on the U.S. industry and market and provide an assessment of the conditions of competition in the gear industry.

The principal findings of the Commission's assessment of the U.S. gear industry are as follows:

I. Profile of the U.S. gear industry

- In 1988, the U.S. gear industry consisted of more than 300 firms having shipments of \$14.8 billion and production worker employment totaling 84,600 persons.

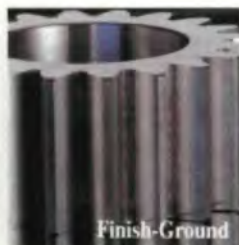
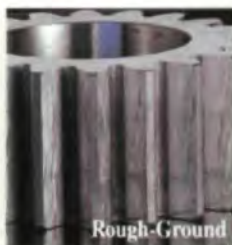
Gears and gearing are intermediate products which are essential to a wide range of U.S. finished product industries. The four principal markets for gears and gearing are the motor vehicle, industrial products, aerospace, and marine industries. Approximately 80 percent of gear industry shipments, \$11.9 billion, were motor vehicle gearing in 1988. Shipments of industrial gearing totaled \$1.7 billion; aerospace gearing shipments totaled \$928.7 million; and marine gearing shipments totaled just \$275.6 million. The U.S. gear industry exported a total of \$2.4 billion in 1988, or 16% of total shipments. U.S. gear consumers imported \$2.7 billion in 1988, resulting in

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a gear trade deficit of \$316 million in 1988, as import penetration rose to over 18% of total gear consumption.

- During 1984-88, Canada, Mexico, the United Kingdom, Japan, Australia, and West Germany were the chief foreign markets for U.S. exports of gears and gearing products.

These markets accounted for 67% of total U.S. exports in 1988. Canada has traditionally been the leading foreign market for U.S. exports of gears and gearing primarily because of the cross border structure of the automobile industry. In total, exports of motor vehicle gears and gearing accounted for 90% of U.S. exports to the 6 leading foreign markets, and most exports were sent to foreign subsidiaries or partners of U.S. firms.

- Major structural changes took place in the U.S. industry during 1984-88.

The domestic gear industry has experienced a number of mergers, acquisitions, leveraged buy outs, and joint ventures in recent years, following a period of divestitures prior to 1984. Some U.S. firms have acquired interests overseas to expand their markets, although much of the activity in international acquisitions has been foreign firms investing in new U.S. facilities.

- The U.S. market for gears and gear products grew by nearly 25% during 1984-88, and accounted for more than one-third of global consumption.

The U.S. market for gears and gear products is the largest in the world and during 1984-88 rose 25%, from \$12.0 billion to \$15.1 billion. U.S. imports grew from \$1.7 billion to \$2.7 billion, or by 57%, during 1984-88. Import penetration rose from 15% in 1984 to 18% in 1988. In 1988, the U.S. market accounted for 35% of global consumption, which is estimated at \$42.6 billion.

- Increased U.S. gear and gearing imports during 1984-88, principally supplied by Canada, Japan, France, and West Germany, were attributable to three factors.

U.S. imports increased during 1984-88 principally because of (1) U.S. original equipment manufacturers, as a cost-lowering measure, bought less expensive gearing from foreign sources; (2) major Western European and Japanese producers were successful in their concerted efforts to penetrate the U.S. market; and (3) Japanese parts producers supplied the growing number of Japanese-owned auto

U.S. demand for aerospace gears grew significantly during 1984-88, with imports nearly doubling during this period.

manufacturers in the United States. In the early 1980s, flagging demand in home markets and the strong dollar made the U.S. gear market attractive to foreign producers. Many U.S. gear consumers were facing difficult market conditions and turned to imported gearing which, largely due to the exchange rate, was often less expensive than the comparable U.S. product. A more recent trend is an increase in imports of gearing by foreign-owned U.S. assembly plants, especially automotive, from their parent companies.

- In the U.S. market, the largest component of consumption is motor vehicle gearing, a market that is strongly influenced by quality considerations.

In 1988, apparent U.S. consumption of motor vehicle gears and gearing accounted for nearly 80% of total consumption of gears and gearing; consumption of motor vehicle gearing increased from \$9.3 billion in 1984 to \$11.9 billion in 1988. Imports accounted for 16% of U.S. apparent consumption of motor vehicle gearing in 1984 and 18% in 1988. A large percentage of these imports are from U.S. subsidiaries located in Canada. Imports from Japan are primarily used in Japanese automotive transplant assembly operations in the United States. The motor vehicle industry is characterized by rapid technological change in virtually all major vehicle systems and producers must be somewhat innovative to remain competitive. Product quality is an especially important consid-

eration for vehicle gear producers and the use of cubic boron nitride grinding technology is becoming a critical element in remaining competitive.

- In the U.S. market, industrial gears and gear products, the second most important market sector, grew irregularly during 1984-88, but imports' share of the market more than doubled.

In 1988, apparent U.S. consumption of industrial gears and gear products accounted for 14% of total consumption of gears and gearing; consumption of industrial gears rose from \$1.8 billion in 1984 to \$2.1 billion in 1988. Imports accounted for 15% of U.S. apparent consumption in 1984, but rose to 27% in 1988. The increase in imports resulted from increasing consumer demand for quality products competitively priced, especially by foreign-owned gear assembly operations. The U.S. market for industrial gearing is directly related to the overall investment in new plant and equipment in the manufacturing sector and to expenditures on public works.

- U.S. demand for aerospace gears grew significantly during 1984-88, with imports nearly doubling during this period.

In 1988, apparent U.S. consumption of aerospace gearing accounted for 6% of total consumption of gears and gearing; consumption of aerospace gears increased from \$738.0 million in 1984 to \$834.0 million in 1988, or by 13%. Aerospace gear imports nearly doubled from \$25.0 million in 1984 to almost \$50.0 million in 1988 and the ratio of imports to consumption rose from 3 to 6% during this period. The demand for aerospace gears is heavily influenced by the demand for helicopters. Despite a downturn in demand for helicopters, however, overall demand for aerospace gears increased during 1984-88 because of the unprecedented increase in sales of large civil transport vehicles.

- U.S. demand for marine gearing remained level during 1984-88, but softened toward the end of this period for small marine gearing, as imports obtained a larger share of the market.

In 1988, apparent U.S. consumption of marine gears accounted for 2% of total apparent U.S. consumption of gears and gearing. During 1984-88, U.S. apparent consumption of these gears rose irregularly, ranging from a

low of \$249 million in 1985-86 to a high of \$275 million in 1988, whereas the import-to-consumption ratio rose from 2% in 1984 to 4% in 1988. Increased imports of large marine gearing occurred in both the government and commercial markets, due, in part, to lower prices. In late 1988, consumption of small marine gears began to fall as sales of pleasure craft softened due to saturation of the market.

- *The overall number of production workers in the U.S. gear industry declined 3.6% during 1984-88.*

There were an estimated 84,600 production workers in the U.S. gear industry in 1988, down from 87,800 in 1984. Employment declined by 6.4% between 1984 and 1987 and then increased by 2.9% between 1987 and 1988. The overall decrease in employment in the U.S. gear industry reflects increased automation and flat shipment trends of the industrial and marine gear sectors. However, employment showed a slight increase during the last year of the period; this increase can be attributed to an upturn in the market in 1987 which necessitated an increase in employment.

- *Nominal wages for all U.S. gear production workers rose significantly; however, wages in real terms reflected an increase of only 3%.*

Total compensation, including fringe benefits, bonuses, and payments in kind, remained relatively stable for the period, declining by 2% in real terms, although in nominal terms, total compensation costs increased by 11%. Wages also declined in real terms, by 4%, while increasing 8% in nominal terms. Annual productivity per worker rose by 17% in real terms.

- *Skilled personnel necessary for U.S. gear manufacturing operations are in short supply.*

Machinists and trainees with the necessary mathematical skills to become machinists are most in demand. Firms attribute the scarcity of workers to generally low unemployment, insufficient numbers of high school graduates with adequate mathematical and verbal skills, and the low status of blue-collar jobs. On-the-job training has a significant cost, as it requires taking otherwise productive skilled workers away from their tasks in order to train new workers. Subsequently, some firms have worked with vocational schools to develop programs covering rudimentary skills, such as blueprint reading and basic machine operations. Many firms re-

R & D expenditures by U.S. gear producers increased during 1984-88.

port high retention rates among workers recruited from these schools.

- *During 1984-88, U.S. gear manufacturing capacity declined an estimated 9%.*

The decline in capacity is based upon a number of different indicators such as plant closings and declines in employment; however, partially offsetting such changes were increases in productivity, as well as the rationalization of inefficient operations. For example, a decline of 15% for machinery in place was offset by the introduction of newer, more efficient gear-cutting and finishing machine tools which resulted in improved productivity. Decreases in capacity of some firms owned by U.S. producers have partially been offset by new capacity added by foreign-owned gear producers as well as by other U.S. firms.

- *The level of capacity utilization by U.S. producers varied substantially among firms producing for different markets.*

For the U.S. gear industry as a whole, capacity utilization was 71% in 1988, as measured in actual machine hours spent producing gears compared with available machine hours. Many captive producers manufacturing gears and gearing for the automotive and construction equipment industries have been operating at higher levels of capacity utilization, in some instances close to 100%. Most producers of gears and gearing for the aerospace and specific industrial and marine products markets have been operating at lower rates of capacity utilization.

- *The level of profits generated by most U.S. gear producers trended upward.*

The increase in operating margin during 1986-88 was partly attributable to the general improvement in the economy, especially in the automotive and machinery sectors. Net sales rose slightly faster than production related costs. Although the percentage increase in operating income was nearly twice that of sales, net income before taxes rose only 11.4% during 1986-88 as a result of a more than doubling of non-production-related expenses, such as interest expense, plant closing losses, and write-offs of assets.

- *Companies that can convince lenders that they will continue to generate revenues and that they have valuable assets are likely to have an advantage in the capital markets over small job shop operations.*

The ability of gear producing firms to obtain financing and the rates at which they borrow money are determined largely by the financial strength of the individual company. The large proportion of companies in this industry that are small do not have a high net asset value or an expected stream of future revenues from long term contracts. They often find most conventional means of financing unavailable or unaffordable. Gear-producing subsidiaries of large companies, such as captive producers in the automotive market, generally meet their capital needs through their corporate financial centers and thus may obtain capital at lower rates or in different ways than are available to smaller firms. U.S. bank lending rates for short-and medium-term financing needs of the private sector declined from slightly over 12% in 1984 to approximately 9% in 1988.

- *During 1984-88, the trend in capital expenditures for gear-producing machine tools in the United States increased, but continued to lag behind the expenditure levels of foreign producers.*

Total expenditures on gear-producing machine tools by U.S. firms rose 48% between 1984 and 1988, although such expenditures fell 11% between 1987 and 1988 to an estimated \$56 million. In spite of the increase during 1984-88, 1988 U.S. expenditures were substantially below the 1980 level. Expenditures for this type of machinery by West German and Japanese producers were significantly higher than for U.S.

firms during 1984-88 and totaled over \$130 million in 1988 in each of these two countries.

- *R&D expenditures by U.S. gear producers increased during 1984-88.*

R&D expenditures by the U.S. gear industry rose annually during 1984-88, increasing from \$53.8 million in 1984 to \$77.7 million in 1988, a 44% gain, but did not keep pace with such expenditures by broader industry groups. Gear industry R&D expenditures represented less than 1% of shipments during 1984-88, whereas the level of R&D for nonelectrical machinery industries, a similar but broader group, totaled 3.5% of sales in 1987. University gear research in the United States has lagged behind that performed in West Germany and Japan. Traditionally, the bulk of gear R&D in the United States is done at the company level and is generally not shared. Several ongoing projects in the United States, especially the work of ASME Gear Research Institute and the Defense Logistics Agency's newly established Instrumental Factory for Gears (INFAC), are designed to improve the competitive position of the U.S. gear industry.

II. Profile of major foreign gear industries.

- *The Japanese gear industry had shipments of \$8.4 billion in 1988 and employed an estimated 39,000 persons.*

Japan's gear industry shipments were predominantly motor vehicle gearing, with the bulk of the remainder accounted

for by industrial and marine gearing. Japan's aerospace gearing industry is relatively small, but is growing through licensing agreements for larger components, such as engines, and through co-production of aircraft with U.S. and Western European aerospace producers. In 1988, the Japanese gear industry served a domestic market estimated at \$6.0 billion, and its exports totaled an estimated \$2.5 billion. Approximately 83% of exports were of vehicle gearing. Imports of gearing products totaled just \$90 million and consisted mainly of industrial and vehicle gearing. Major foreign suppliers were the United States, France, and West Germany.

- *The West German gear industry had shipments of \$4.8 billion in 1988 and employed an estimated 23,000 persons.*

West Germany is a technological leader in industrial gearing; in contrast with other major producers, shipments of industrial gearing accounted for approximately half of production. West Germany is also a leader in marine gearing, especially for diesel engines, and a significant number of firms produce for this market. The West German gear industry serves a domestic market estimated at \$3.2 billion, and exports about half of its production, or \$2.2 billion. Imports totaled \$521.7 million, accounting for about 17% of domestic consumption, about the same percent as in the United States, and were primarily from France, Italy, and other EC countries.

- *Other important EC suppliers had aggregate shipments of \$6.4 billion and employed an estimated 32,500 persons.*

Italy, France, Belgium, and the United Kingdom are all highly industrialized, technologically advanced countries with significant gear producing industries. All four countries are involved in the vehicle and industrial gearing sectors. France, the United Kingdom, and Belgium also produce aerospace and marine gearing. The majority of firms in each country are described as small- to medium-sized firms, operating as subsidiaries of multinational producers, as captive suppliers to the

During 1984-88, U.S. gear manufacturing capacity declined an estimated 9%.

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vehicle or aerospace sectors, or as independents operating in niche markets.

- Other suppliers include Canada, Korea, Taiwan, Mexico, and some of the newly industrialized countries.

The gear and gear products industry in Canada is closely integrated with U.S. vehicle producers; the gear industry in Korea is also highly dependent on vehicle producers, both domestic and Japanese. Taiwan has designated its gear industry as a "strategic industry," permitting it to have preferential treatment. Major gear producers in Mexico and Brazil produce primarily for domestic consumption. China has an almost unlimited supply of low-cost labor and the potential to become a major supplier in the future, and Singapore is a focal point for transshipments among other Asian countries.

III. Assessment of the global market for gears.

- Estimated world consumption of vehicle, industrial, aerospace, and marine gearing, measured in terms of U.S. dollars, rose sharply dur-

ing 1984-88, but experienced only moderate growth when measured in national currencies.

During 1984-88, the Commission's estimate of world consumption of vehicle, industrial, aerospace, and marine gearing, in terms of U.S. dollars, increased

from \$20 billion to \$25 billion in 1984 to \$40 billion to \$45 billion in 1988. However, if these measurements utilized national currencies that have appreciated against the dollar, the change in production and consumption would be considerably smaller. For example, during 1984-88, production of gearing in West Germany increased by 107% as measured in U.S. dollars, but production as measured in Deutsche marks rose by 28%.

- Motor vehicle gearing represents more than 60% of world production and consumption of gears and gear products; the remainder is accounted for by industrial, aerospace, and marine gearing. The United States was a principal supplier to all markets, except marine gearing.

The largest producers and consumers of vehicle gearing are those countries that have the most significant automotive industries, namely the EC countries, the United States, Japan, and Canada. Korea was a significant producer and consumer, although imports account for an important, but decreasing, part of its total needs. West Germany, the United States, and Japan are the world's largest sources and markets for industrial gearing. The United States is not only the single largest producer of aerospace gearing, but the largest individual market as well.

- During 1984-88, world capacity in the gear industry grew in most countries.

The number of facilities and investment in new machinery increased, especially during 1986-88, as the world economic situation improved. This was particularly true in newly industrialized countries; during 1984-88, domestic shipments of Korea and Taiwan, for example, increased nearly 94% to \$280 million and 153% to \$124 million, respectively. These and other emerging suppliers are expected to become a greater force in the world market over the next 10 years.

- During 1984-88, the value of the U.S. dollar changed significantly compared with the currencies of many countries exporting gearing to the United States.

Western European currencies and the Japanese yen appreciated sharply against the dollar in 1986 and subsequent years. Against these currencies, the real exchange rate index increased by 30 to

During 1984-88 the value of the U.S. dollar changed significantly compared with the currencies of countries importing to the U.S.

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50% or more during 1984-88. The relative decline of the dollar, all other things being equal, should make U.S. products more price competitive and U.S. imports more expensive.

- *Excluding the non-market economies, 1988 world exports of gearing totaled an estimated \$11.2 billion and world imports totaled \$8.8 billion.*

In 1988, the largest exporters were Japan and the United States (22% each), West Germany (19%), and France (10%). The major importing countries in 1988 were the United States (31%), Canada (20%), and the United Kingdom (11%). The demand for gearing in these countries was principally for automotive gearing. Japanese automobile transplants in the United States and U.S. automobile producers' subsidiaries in Canada dominated the trade flows within, as well as into and out of, North America. Japan's exports as a share of production were 29%, compared with almost 45% for West Germany, 16% for the United States, and 53% for France.

- *The major suppliers and consumers of gearing in the non-market economies of the world are the Soviet Union, Hungary, East Germany, and China.*

Nonmarket economies supplement their own production with some imports, mainly from Western Europe. Production in these nonmarket economies, as well as in South America, Africa, and South Asia, is mostly destined for internal markets, but is insufficient to meet total demand.

- *Product standards in gear trade are an important marketing tool and the ability to manufacture to a variety of standards is an important asset for gear producers.*

Despite the fact that standards are voluntary, they are often used by private and public procurement officials in tender documents and may attain the status of a de facto requirement in particular countries. One of the most widely used standards is the DIN of West Germany. The American Gear Manufacturers Association (AGMA) has become more active in the International Standards Organization (ISO) during the last few years and has had some success in influencing ISO standards drafting. AGMA standards are receiving wider acceptance because of an emphasis on "serv-

iceability" compared with the more "academic" approach used for developing other countries' standards.

IV. Comparison of U.S. and foreign producers' strengths and weaknesses.

- *Raw material costs are comparable for gear manufacturers worldwide. However, the cost of bearings used in gear products has increased for U.S. producers.*

According to U.S. and foreign industry sources, Japanese, European, and U.S. gear producers face fairly comparable material costs. Since mid-1989, however, U.S. manufacturers have paid a higher price for bearings due to a decline in U.S. production and antidumping tariffs on bearings imported from key foreign suppliers. The costs of the resulting shortages and double-digit bearing price increases have been passed on to customers, reducing U.S. producers' price competitiveness.

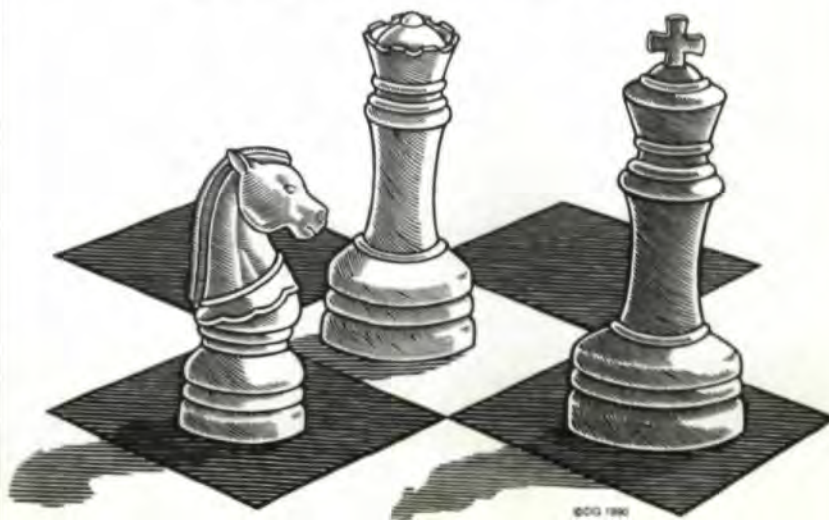
- *The United States experienced less growth in real hourly compensation costs for production workers*

In 1988, world gearing exports were an estimated \$11.2 billion and imports were \$8.8 billion.

in 1984-88 than did most of its Western European competitors.

When adjusted for inflation, hourly compensation costs for U.S. production workers were unchanged from 1984 to 1988; in West Germany, they increased in real terms by 3.5% over the period. In Japan and Canada, however, they fell by 3.1%

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and 0.7%, respectively.

• *The supply of skilled labor worldwide has tightened in recent years, and employers are pursuing a variety of training programs to ease the shortage.*

As the current workforce ages, major world producers are finding it difficult to fill entry-level and skilled manufacturing positions. Geography, labor force mobility, and the economy are all factors; in addition, young people are not entering the skilled manufacturing trades. Employers are assuming a major role in training new hires in a wide range of skills.

• *During 1984-88, U.S. interest rates were higher on average than those in West Germany and Japan, but lower than those in other major gear producing nations.*

U.S. bank lending rates averaged 9.6% during 1984-88, compared with 9% for West Germany and 5.8% for Japan. In other European countries, the rates ranged, on average, from 10.5% in the United Kingdom to 16.9% in France.

• *U.S. gear producers are disadvantaged relative to European and Japanese manufacturers in gaining access to capital.*

Domestic producers believe that competing successfully in the future requires current capital expenditures to upgrade equipment. U.S. and foreign industry officials feel that in the United States, investors typically focus on short-term profitability, unlike foreign investors who generally consider return on investment over the long term. One of the results of this is that lending rates for research projects with long lead-times are two to three times higher in the United States than in many other countries. Operating with lower profit margins than their foreign competitors, U.S. firms lack retained earnings, and the majority are not large enough to have easy access to capital markets. In contrast, certain of their foreign competitors have relationships with larger firms and banks which assure more ready availability of capital. In the United States, the integration of financial institutions and industry that is prevalent in countries such as West Germany and Japan, is prohibited.

• *University research and development expenditures in Japan and West Germany far exceeded those of the United States, but technology leaders differ by market sector.*

The United States spent less than \$1.0 million in university gear research in 1985, as compared with an estimated \$3.8 million in West Germany and \$5.0 million in Japan in the same year. Both West Germany and Japan have extensive gear research centers in universities, cooperating and sharing information with private corporations and government agencies. In the United States only a few of these centers exist; almost all research is done at the company level and remains proprietary. While the U.S. is believed to be the leader in

University
research and
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aerospace gear technology, it lags behind its competitors in technology for automotive and marine applications, for which West German firms are believed to have an advantage. No clear leader in industrial gearing technology has emerged.

• *Most U.S. gear manufacturers lag behind their Japanese and Western European counterparts in adopting new machine-tool technology.*

During 1984-88, U.S. expenditures for gear-making machine tools were \$264.0 million, compared with \$542.8 million for West Germany and \$428.4 million for Japan. The world's leading machine tool manufacturers are located in Japan and Western Europe, particularly in West Germany. As a result, gear producers located in or near those countries can experiment with and integrate the latest in machine-tool technology in their families before it arrives in the United States.

• *The U.S. machine tool industry ranks behind Western European and Japanese machine tool builders for some critical types of machinery.*

Industry sources indicate that the technology and quality of West German, Swiss, and Japanese gear-making machine tools equal or surpass that of U.S. producers. For instance, West German and Swiss machine tool builders excel in bevel gear grinding machine tools, and Japanese manufacturers produce excellent hobbing and grinding machines. Foreign machine tool firms are characterized as large, technologically advanced, multi-product firms known for high quality, moderately priced products; some are subsidiaries of much larger firms. U.S. machine tool firms, while technologically advanced, are smaller and more specialized.

• *On average, the equipment currently in use by U.S. manufacturers is older than that of West German and Japanese producers.*

According to trade surveys, 88% of the gear-cutting and finishing machine tools in use in the United States in 1989 were more than 10 years old; in Japan, only 63% were of that age. West German sources estimate that the average age of critical manufacturing machines is less than 10 years. Older machinery tends to require more frequent maintenance and repair, which reduces its productive time. Also, technology embodied in new

machinery enables manufacturers to maximize their productivity.

V. U.S. and foreign industry and U.S. consuming industry views.

- *U.S. manufacturers claim that some government actions have harmed the competitiveness of the U.S. gear industry in global markets.*

U.S. manufacturers claim that anti-trust and product liability laws, tax policy, OSHA and EPA regulations, and other government policies harm their competitiveness; moreover, according to U.S. producers, incentives to export are practically nonexistent. In contrast, a number of foreign producers receive support from their governments, which allows them to be more competitive. This support includes accelerated depreciation for new machinery, encouragement for mergers and acquisitions, and, in most European countries, government rebating of VATs. The following specific taxation issues concern many U.S. gear manufacturers: (1) the treatment of depreciation under the Modified Accelerated Cost Recovery System; (2) the corporate alternative minimum tax; (3) the elimination of the Investment Tax Credit; (4) the current tax treatment of capital gains; (5) the treatment of "goodwill" under the U.S. tax code; and, (6) changes in the present tax code concerning foreign tax credits.

- *U.S. gear producers claim U.S. product liability laws inhibit research and development efforts.*

U.S. producers' insurance costs have risen dramatically in recent years in the face of product-liability lawsuits. As a result, according to industry sources, some firms cannot afford the high insurance premiums and have been forced to curtail or eliminate research and new-product-development efforts. Many U.S. firms feel that, in order to avoid product liability problems, they must produce only proven designs with extra measures incorporated to ensure durability and longevity, and to stress design of products to more stringent standards. This hinders them from competing against foreign companies that can more readily offer new products and designs.

U.S. firms maintain that while businesses and manufacturers should be held liable for injuries caused by their products due to their own negligence, liability laws must be uniformly enforced and penalties reasonable. Under the current system,

U.S. businesses assert that they can be forced to pay large settlements for injuries that they did not cause; it is now always necessary in the U.S. legal system to show that the target of such a suit was responsible for injuries. U.S. firms maintain that this gives foreign firms a competitive edge over their U.S. counterparts since other industrialized countries have a fault-based standard of liability or other judicial or institutional differences that reduce the uncertainty of liability lawsuits. The fault-based system sets more rigorous standards for the proof

of fault and the proof of the absence of contributing fault on the part of the plaintiff.

- *Certain U.S. Department of Defense policies are eroding the U.S. defense industrial base, according to some U.S. producers.*

Some U.S. producers believe they are harmed by the Defense Department's practice of purchasing on initial bid price rather than the life cycle cost of the product. This policy favors the low-cost producer, whether it is the manufacturer that has invested heavily in research and development to produce a superior product or another, perhaps less knowledgeable, producer. Other sources believe that defense weapon systems are increasingly relying on foreign gears and gear products purchased as a result of offset agreements or of contracts awarded to the lowest bidder. Some firms have advocated the strict enforcement of "Buy America" procurement regulations in order to counter shifts in purchases to foreign goods.

- *U.S. distributors cite improved product assortment, price, quality, service, and leadtime as the primary areas U.S. producers need to address in order to remain competitive in the U.S. market.*

Some U.S. distributors criticize U.S. gear manufacturers for not offering a complete assortment of gear products at a competitive price. U.S. distributors believe that if U.S. manufacturers are to retain their market share, they must develop products that are competitive in terms of quality and price, increase communications with customers, shorten lead times, and build export marketing networks. Others feel that cost structure and design factors must be reexamined to reduce prices and R&D must be increased. Foreign producers believe that U.S. production is primarily intended for the domestic market and is therefore not truly competitive with the assortment of products available from foreign sources.

- *U.S. producers expressed concern over the way gears and gear products are currently classified under U.S. Government statistical programs.*

They are concerned that a large part of current domestic industry activity is not covered by the Standard Industrial Classification system. Similarly, import statistics of products from other countries (especially

U.S. distributors cite improved product assortment, price, quality, service, and lead time as the primary areas U.S. producers need to address to remain competitive in the U.S. market.

Canada) to the United States are not collected in categories that are useful to the domestic industry.

- *U.S. producers expressed concern over the current pattern of foreign investment in the United States.*

U.S. producers are facing increased competition from foreign-owned firms that are locating in the United States in order to increase their market share. Such firms are not investing in existing U.S. operations, but are constructing new facilities or are establishing marketing agreements with U.S. distributors. Foreign automobile manufacturers are locating in the United States and are sourcing gears from their home countries.

- *U.S. industry sources allege unfair trade practices by foreign suppliers, citing as an example import prices that are substantially lower than U.S. producers' prices, despite unfavorable exchange rates for the imports.*

Foreign suppliers state that price differences are a result of their different gear production technology and the production of gears for different applications. Domestic firms advocate the implementation of reciprocal trade agreements between the United States and those countries exporting to the United States, and matching U.S. import tariffs with those faced by U.S. exports.

- *U.S. firms indicated that trade barriers significantly inhibit the free*

flow of U.S. exports into major foreign markets.

Trade barriers named included high tariffs, import licensing requirements, technology transfer requirements, subsidies, local content requirements, exchange and other monetary or financial controls, and discriminatory sourcing. Countries most often cited with significant barriers to trade include Japan, Argentina, Australia, Brazil, the EC member states, India, Mexico, Korea, China, and the Eastern Bloc.

- *According to U.S. manufacturers, finding and retaining skilled labor is difficult and current training programs are inadequate and outdated.*

A number of countries report a similar lack of skilled workers. Those U.S. firms that offer in-house training report that many employees leave for higher paying jobs with other firms. Unlike the United States, where training programs receive little or no government financing, assistance is provided for training programs in the EC and Japan.

In some countries, such as West Germany, vocational training and apprenticeship programs are used to train a skilled labor force. In other European countries and in Japan, however, such programs are not widespread and manufacturers express concerns similar to their U.S. counterparts regarding attracting

younger employees to these programs.

Based on comparisons of the U.S. gear industry with the U.S. gross national product (GNP) and broader industry groups, growth in the total U.S. gear industry shipments have lagged behind that of the GNP, and the motor vehicle sector kept pace with that of the durable goods sector, and surpassed the growth in all manufacturing. Employment in the U.S. gear industry fell slightly during 1984-88, whereas it rose 3% annually in the motor vehicle industry and less than 1% in all manufacturing during the same period. Capital expenditures, especially among U.S. vehicle gear producers, increased substantially during 1984-86, as new machinery was required for new generations of automotive transmissions, and then declined. Such expenditures increased at an average annual rate of 4%, compared with 7% for all manufacturing during the period. ■

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