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JAPANESE-AFFILIATED
AUTOMAKERS

Management Practices Related
to Purchasing Parts

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Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss issues related to trade in auto parts. As requested, my testimony is based primarily on the information we developed for our March 1988 report, Foreign Investment: Growing Japanese Presence in the U.S. Auto Industry (GAO/NSIAD-88-111, Mar. 7, 1988), as well as some updated data. One of the issues examined in that study was the concern that Japanese-affiliated auto assemblers would buy parts and components only from their traditional Japanese suppliers. While this work was done 4 years ago, we believe that the insights into the management practices of the Japanese-affiliated companies gained during the course of that study and their implications for the auto parts industry are still relevant.

For our study, we visited the three Japanese-affiliated automakers (Honda, Nissan, and NUMMI¹) who were operating in the United States in 1986; we interviewed a sample of U.S. auto parts producers, half of whom were selling to the Japanese-affiliated automakers; and we interviewed a number of Japanese-affiliated auto parts producers who were manufacturing in the United States.

¹New United Motor Manufacturing, Incorporated, which is a General Motors-Toyota 50/50 joint venture.

GROWING U.S. IMPORTS OF JAPANESE AUTO PARTS

Imports of Japanese auto parts into the United States have increased sharply since the mid-1980s. U.S. International Trade Commission data show that current dollar imports of auto parts increased about 140 percent, from \$4.6 billion in 1985 to over \$11 billion in 1990. This increase can be attributed to several causes, including the demand for replacement parts for the growing fleet of Japanese cars on U.S. roads and the gradually increasing proportion of imported parts and components used by the "big three" U.S. auto assemblers.

However, an undeniably key factor has also been the dramatic growth in the number of motor vehicles produced in the United States by Japanese-affiliated automakers. The annual production of their cars and light trucks increased over 400 percent, from about 300,000 in 1985 to about 1.6 million in 1990. These vehicles contain a much larger proportion of imported parts than those produced by the traditional U.S. automakers.

VIEWS OF U.S. PARTS AND COMPONENTS SUPPLIERS

For our 1988 report, we selected a judgment sample of 30 U.S. auto parts suppliers for in-depth interviews. These 30 represented a cross section of the industry in terms of sales volume; types of products sold; and experiences, both good and bad, in attempting to

sell their products to foreign-affiliated automakers. Of the 30 suppliers, 15 had done business with at least one Japanese-affiliated automaker. Some suppliers had been successful in obtaining business with one automaker and unsuccessful with another. Fifteen companies stated they had not been successful in obtaining business with any of the Japanese-affiliated automakers.

Many of the U.S. suppliers we interviewed said they had encountered difficulties in obtaining business from Japanese-affiliated automakers. The most frequently cited problems included overcoming preexisting relationships between Japanese automakers and their suppliers and surmounting language and cultural differences. However, the specific comments varied widely.

- Some suppliers believed that Japanese automakers selected Japanese-affiliated suppliers because they had organizational or financial ties to them.

- Some believed that Japanese-affiliated suppliers had an advantage in obtaining this business because they had already proven themselves to the Japanese automaker in Japan.

- Other U.S. suppliers noted that Japanese-affiliated suppliers were already accustomed to the automakers' production systems and had no language or cultural barriers to overcome.

Another problem that U.S. suppliers cited less frequently was the difficulty of obtaining and/or interpreting drawings or specifications. Drawings that they did receive from the Japanese automakers were fundamentally different from U.S. automakers' drawings.

Successful U.S. Approaches to Japanese Sales

Some U.S. companies, however, have been successful in selling parts and components to Japanese-affiliated automakers. Those U.S. parts suppliers in our sample who were successful in selling to the Japanese-affiliated automakers strongly believed that their demonstrated persistence and commitment to the customer enabled them to obtain the Japanese-affiliated automakers' business. Furthermore, some suppliers who originally had difficulty in meeting what they viewed as the exacting standards of the Japanese-affiliated automakers succeeded nevertheless. The Japanese-affiliated automakers responded to these suppliers' serious efforts to correct problems by helping the suppliers solve their problems and improve their products.

Among the approaches that the suppliers in our sample used to achieve success were (1) entering into licensing agreements, (2) starting joint ventures with Japanese-affiliated suppliers, and (3) establishing a representative presence in Japan.

Most U.S. companies that obtained business from Japanese-affiliated automakers stated that they encountered management practices that were quite different from those traditionally used by the "big three." They also reported that their contacts with these automakers had affected their business practices in a positive way. The benefits most often cited were greater production efficiency, increased emphasis on quality control, and more constant attention to improving their products and manufacturing processes. Some suppliers said they now felt more competitive, and some said they were now demanding more from their own suppliers as well.

JAPANESE-AFFILIATED AUTOMAKERS' SOURCING OF PARTS AND COMPONENTS

When we visited the Japanese-affiliated auto assembly plants and interviewed the U.S. parts suppliers doing business with them, we learned how the Japanese-affiliated automakers' management practices for sourcing parts and components differed from the traditional practices of the "big three."

Zero Defect Parts and Continuous Improvement

Successful Japanese automobile companies use management systems that involve a commitment to total quality control, which establishes a goal of zero defects. This approach to quality control was adopted because it reduces manufacturing costs most effectively. The approach underlies all aspects of company

operations--design and engineering, assembly operations, human resource management, and relations with suppliers.

Parts and component suppliers are an important element in the system. Standards for quality, cost, and service are exacting, and suppliers are expected to provide perfect parts on a just-in-time basis. In addition, the parts and component suppliers play a role that differs greatly from their traditional role for the "big three" U.S. automakers. For example, U.S. automakers have typically relied on their own resources for design and engineering. Suppliers made parts in accordance with drawings provided by the automakers, often using automaker-supplied dies and tooling.

On the other hand, Japanese automakers require suppliers to be heavily involved in the initial design and development of certain parts and subassemblies. Therefore, suppliers are expected to be able to design the parts they produce as well as to respond quickly to requests for product changes deemed necessary in the course of a model run. Suppliers are also expected to cut costs each year through design or production modifications. This role also requires a degree of engineering capability.

Just-in-Time Delivery

Japanese automakers have traditionally required their suppliers to deliver parts using a "just-in-time" process--delivering the exact

number and kind of parts precisely when the automaker needs them. The automakers also encourage suppliers to produce parts just in time. By synchronizing production and delivery of parts, both automakers and suppliers can reduce inventory and related costs. The smooth operation of the just-in-time process depends on the quality of the parts delivered. Because no back-up parts are generally on hand to replace defective ones, suppliers must work to prevent defects during the production process. If defects do occur, just-in-time facilitates prompt identification and correction of the problem in the production process. By rigorously controlling production, suppliers and automakers can keep repair costs and wasted materials to a minimum, along with post-production inspection, storage, and handling costs.

While having economic advantages, the expanded supplier role called for under the just-in-time process can leave automakers vulnerable to supplier problems. Therefore, the need for technical competence and a cooperative working relationship with suppliers is particularly important. Some suppliers who have not operated under this process may have difficulty implementing it.

Contract Requirements and Business Relationships

U.S. companies have historically tended to use rigid, price-oriented contracts, usually covering a 1-year period. Japanese automakers and their suppliers have longer-term relationships

involving continuous collaboration and coordination in every aspect of parts design, production, and supply. Japanese automakers believe that longer-term relationships help them to be more responsive to consumer preferences, maintain high quality, and keep costs down. However, these long-term relationships may limit the opportunities available for other suppliers to obtain business.

Japanese-affiliated automakers are more directly involved with their suppliers than is customary for the "big three." They tend to be more involved with the part or component at every stage of the production process. Japanese-affiliated automakers are inclined to visit the suppliers more frequently and conduct more comprehensive inspections. These are not courtesy visits: Their purpose tends to be "preventive" rather than "reactive" to a problem. And the suppliers may be contacted even on a daily basis regarding the incidence of defects.

Smaller Number of Direct Suppliers

Japanese automakers source a much higher percentage of their parts and components from outside the company and purchase more subassemblies than do U.S. automakers. They also use a substantially smaller number of suppliers and tend to retain them for an entire model run, or longer. Japanese-affiliated automakers typically have direct business relationships with only about 200-

300 suppliers. In contrast, U.S. automakers generally have direct business relationships with about 2,300-5,000 suppliers.

This characteristic is not confined to the Japanese automobile industry. It is one of the elements of the "Total Quality Management" or "Total Quality Control" approach to managing an organization. In the United States, recognized quality leaders-- such as Baldrige Award winners like Motorola and Xerox--have adopted the same approach to sourcing parts and components from suppliers. These companies have shrunk their supplier bases from several thousand suppliers down to several hundred suppliers in order to capture the related efficiencies and quality improvements. Furthermore, the "big three" are also making similar changes. They are raising quality standards, reducing the number of direct suppliers, and instituting just-in-time delivery.

TRENDS IN DOMESTIC CONTENT AND LOCAL SOURCING BY THE TRANSPLANTS

When we conducted our work in 1986 and 1987, we concluded that the domestic content of the U.S.-assembled vehicles made by Japanese-affiliated automakers would continue to increase in the future. There were several reasons to expect such an increase.

- As production of the Japanese-affiliated automakers rose, economies of scale would permit the production of more parts and components in the United States.

- As the plants matured, there would be more time to seek out and find U.S. parts and component suppliers.
- As U.S. companies gained experience in successfully selling parts and components to the Japanese-affiliated automakers, the supplier base skilled in selling to the Japanese-affiliated automakers would grow.
- Because the supply relationship tended to last, at least over the several-year-run of a particular model, future changeovers to new models would allow U.S. parts and component suppliers to help design parts and components for the new model.

Currently, some confusion exists over how to measure U.S. content, and some controversy continues over exactly how much domestic content the Japanese-affiliated automakers' U.S.-made cars contain. Nevertheless, the trend--no matter how measured--tends to support the predicted increase. When Honda began to assemble cars in Ohio, it reported that domestic content was about 30 percent. By 1987 it reported local content to be about 60 percent. Now, it reports the local content is about 75 percent for a Honda Accord and about 69 percent for a Honda Civic.

At Nissan, local content at start-up was reported at about 38 percent for their trucks and at about 47 percent for their cars.

By 1987 local content for trucks was reported at about 56 percent and for cars at about 63 percent. Local content in Nissan trucks is now reported at about 58 percent, and local content in cars is reported at about 73 percent.

At NUMMI, local content for the Chevrolet Nova was reported to have started out in 1984 at 50 percent and to have risen to about 60 percent in 1987. The local content in the GEO Prism, the successor vehicle to the Nova, is now reported to be at about 76 percent. NUMMI reports that approximately 65 percent of the parts they purchase in the United States and Canada are from suppliers who are not Japanese affiliated. About 10 percent of the parts come from joint ventures between Japanese and American suppliers. And, about 25 percent of the parts are sourced from Japanese-affiliated companies.

Moving beyond the statistics to a couple of specific examples illustrates the process of increasing local content. Automobile seats are a component that was traditionally built "in-house" by the "big three" automakers. When Honda began to assemble autos in 1982 it reported that no U.S. car seat maker was available to supply the factory. Consequently, Honda helped bring over a Japanese affiliate to make seats for the automobiles assembled in Ohio.

However, when NUMMI began operations in 1984, the management found a U.S. company that manufactured some seat components. The company expressed an interest in going into seat manufacturing and was able to successfully meet the price, quality, and service expectations of the Toyota-trained management at NUMMI. As a result, when Toyota in 1988 began building Toyota Camrys in a wholly owned assembly plant in Kentucky, this same seat manufacturing company won the contract to supply seats for the cars assembled there.

A second example involves the manufacture of engines. While efficient automobile assembly requires a plant with an annual capacity of about 200,000 vehicles, an engine factory requires a production run of about 400,000 units to be efficient. In other words, an automobile producer needs at least two assembly plants in order for the economies of scale of the operation to justify building an engine factory. Therefore, a Japanese-affiliated automaker with only one assembly plant in the United States would be expected to import engines from Japan. However, a Japanese-affiliated automaker with two assembly plants could be expected to build a factory to manufacture engines.

This has been the pattern with respect to Honda, Toyota, and Nissan. Honda was the first company to reach auto production numbers large enough to warrant building an engine factory and the first one to start producing engines. And as the scale of operation grew, the complexity of the production grew with it.

When we visited Honda's Anna, Ohio, engine factory in 1986 only about 300 workers were employed there. The manufacturing process consisted of melting aluminum ingots, pouring the molten aluminum into a mold to form the engine block, machining the block, and then assembling the engine. However, all of the engine parts, other than the block itself, were imported from Japan in kit form.

When I returned to visit the same factory in the summer of 1990, employment had increased to about 2,000 workers, and the work had expanded to include additional manufacturing processes. Engine production included the in-house manufacturing of some of the parts that went into the engine, such as the cylinder sleeves and pistons. In addition, other parts were being procured locally. Furthermore, the manufacture of transmission components, including transmission casings and clutch assemblies, had been added. Clearly, domestic content in 1990 was considerably higher than in 1986.

Another observation we made several years ago was that the success of U.S. parts and component suppliers in selling to the Japanese-affiliated automakers would enhance their competitiveness worldwide, including their ability to sell to Japan. As predicted, in recent years the export of U.S. auto parts to Japan has greatly increased--although these exports started from an extremely small base. Recent events at NUMMI provide an example of how one Japanese-affiliated automaker is contributing to the process. In

1990 it formed a unit for the purpose of exporting to Japan U.S. auto parts used at its plant.

In summary, while there are concerns about the ability of U.S. auto parts and component suppliers to sell to the Japanese-affiliated automakers, explanations about what is happening are complex. While concerns exist about the fairness of preexisting relationships between Japanese automakers and Japanese parts and component suppliers, business considerations can also explain the pattern of what is observed.

We recognize that this is a highly charged issue, with considerable economic interests at stake. Therefore, it is important that U.S. government agencies involved in the issue base their judgments and actions on good analysis of the situation. I understand that the U.S. Department of Commerce and the Japanese Ministry of International Trade and Industry will undertake a detailed, jointly sponsored auto parts sourcing study which will include an analysis of parts sourcing at the U.S.-based, Japanese-affiliated automakers. The conclusions reached by such an analysis should help to improve our understanding of the issue and help guide any future action.

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Mr. Chairman, this concludes my prepared statement. I will be happy to try to respond to any questions that you or the Committee may have.

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