

Midwestern Region

Partners for Life: Honda of America Manufacturing Company (HAM)

Could we borrow an engineer? Maybe a senior manager? "Sure," says this automaker to its suppliers.

Cash Powell, Jr.

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If you can become a supplier of Honda of America Manufacturing (HAM), you can be a supplier for life. In fact, buyers at its Marysville, OH plant vow that they are "fiercely loyal" to their suppliers.

Helping suppliers by sharing their engineering and management expertise, HAM associates continue supplier development practices started by company founder Soichiro Honda in the 1960s. When he couldn't find suppliers for his new automobile manufacturing venture, and MITI (Ministry of International Trade and Industry) pressured him to stick to motorcycle production, Honda convinced *motorcycle* parts suppliers to provide automobile parts. Suppliers gave Honda his start. Some of those suppliers are still with Honda of Japan to this day.

Managing Suppliers

How does HAM manage suppliers in a partnership for life philosophy? The first thing Dave Nelson, vice president of purchasing, tells visitors is that their suppliers do not sell their products to Honda; "they sell their products *through* Honda to our customers."

HAM does not expect to sort or repair poor-quality parts. The automaker certifies suppliers through a comprehensive certification procedure. Only when parts are a problem at

the assembly line does a supplier become part of the Best Part/Best Quality Program (BP/BQ), in which incoming shipment quality is checked. A team of three engineering support people works at the supplier location until its quality is acceptable. When BP/BQ was implemented in February 1990, the monthly parts per million (ppm) reject rates dropped as low as 360 overall and as low as zero ppm for the top ten suppliers in the program. (See Figure 1, which illustrates the tracking history of problem suppliers; dramatic improvements do take place through work with them.)

HAM's 37 buyer-planner associates manage the supplier delivery improvement program. Supplier delivery for 1989 was 98.73 percent on time. In HAM's JIT environment, that percentage was unacceptable. Using Pareto analysis, they identified the worst 20 suppliers contributing 80 percent (610) of the 675 missed shipments in January, 1990. Working with the 20 companies by analyzing the source of the problems (mis-identification, etc.) or visiting suppliers for hands-on assistance, they helped this group decrease missed shipments to 41 by December (see Figure 2); the total was 257 for all suppliers. The "worst 20 percent" of the 257 "misses" will continue to be

1990 Best Part/Best Quality Suppliers Quality Impact

FIRST QUARTER SUPPLIERS	OCT '89	NOV	DEC	JAN '90	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PARTS RECEIVED	2,383,119	2,927,277	3,576,962	3,526,915	2,706,909	2,745,889	2,630,273	2,785,718	2,997,699	2,302,715	2,834,667	2,907,397	3,062,171	2,617,749	1,895,217
PARTS REJECTED	18,195	9,679	8,342	8,780	10,923	30,470	994	1,052	1,852	830	4,112	1,611	3,891	4,905	2,659
PPM	7,635	2,965	2,330	2,440	4,035	11,107	376	378	713	359	1,451	554	1,269	1,890	1,433
TOP TEN LIST	2	2	2	1	2	2	1.8	0	0	0	0	0	1	1	1
11-20 LIST	1	2	2	1	0	0	1.8	1	2	0	2	2	1.1	2	1
SMT. BTR	3	4	4	2	2	2	2.8	1	2	0	2	0	1.1	3	2
TOP 20 TOTAL															

□ AVERAGE

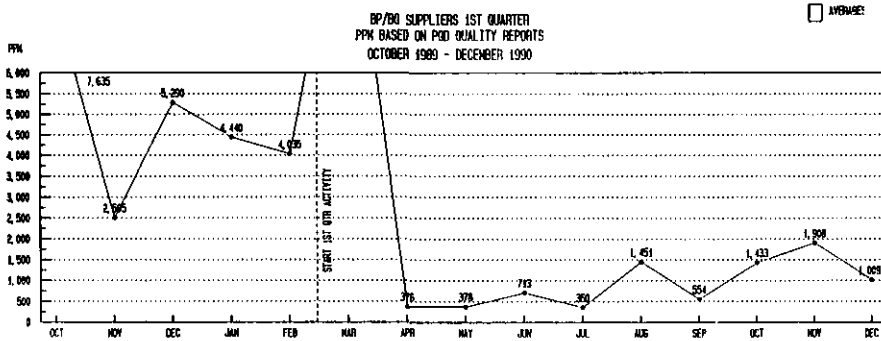


Figure 1. This illustration displays performance of Honda's problem suppliers; their performance has improved in the latter half of 1990. Usually there are about three dozen such suppliers. Suppliers only become part of the Best Part/Best Quality Program when their parts are a problem at the assembly line. They drop out of this program when their parts are judged acceptable at assembly.

The 20 Delivery Improvement Program

Suppliers Mis- Shipment History

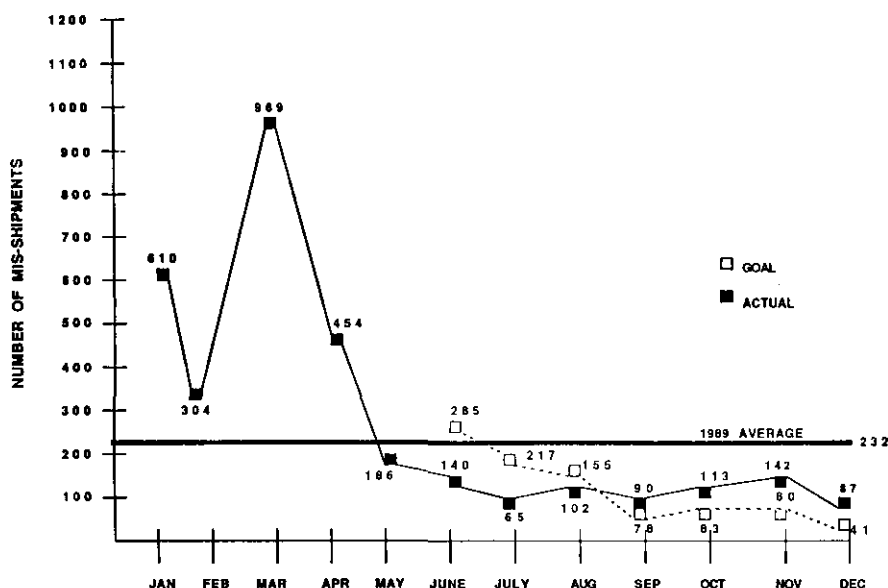


Figure 2. When parts are a problem at the assembly line, a supplier becomes part of the Best Part/Best Quality Program (BP/BQ). A team of three engineering support people then works at the supplier location until its quality is acceptable; monthly parts per million (ppm) reject rates are monitored.

analyzed, and so on, until these delivery problems reach zero.

No Pain When Others Gain

Another philosophy which suppliers adjust to is that the few multiple source suppliers of the same product (incoming materials are 79 percent single sourced) *do not compete* for HAM business. Its two steel suppliers, for example, will not gain new share at each other's expense by undercutting the price or offering some other advantage. HAM asks such suppliers to share knowledge about the products they supply to the plant.

Such an approach to the supplier-customer relationship is completely foreign to American business and to most business in the world.

Management Lends a Hand

HAM offers many management services to its suppliers. Figure 3 illustrates improvements in assembly operations achieved by one supplier with development assistance from a HAM purchasing associate.

Suppliers also learn how to set up their own Quality Circles (QC) programs from HAM personnel. During our workshop, a nearby HAM supplier sent in one of its QC teams to demonstrate an improvement project.

Through the "Guest Engineer" program, a supplier's design engineer can spend time training in the Honda factory with its engineers. It's one more indicator of loyalty and trust to suppliers.

In certain instances, HAM will use its purchasing power to buy raw materials for its suppliers.

More than 20 senior HAM executives offer their services to suppliers through the executive loan program. Representing various functional areas, they'll work on site with a supplier until a problem is resolved.

Becoming a Honda Supplier

With such a program of supplier support, one might ask how a company becomes a Honda supplier? Asked this question, Nelson described an es-

sential philosophy or process of management rather than a prescription for success:

Quality

The supplier must manufacture quality into the product. A company "inspecting in" quality will not qualify.

Cost

A Honda supplier must work at continuous improvement to achieve manufacturing cost reductions through productivity. American suppliers have found that philosophy difficult to grasp; some tried to buy business with low prices, quickly followed by higher prices after the contract award. HAM establishes target prices for purchased materials. A supplier is expected to meet that price and provide an implementation plan for continued improvement.

Delivery

Suppliers must respond to changing production schedules and deliver the correct number of parts, in the correct sequence, neither early nor late, to the proper location.

Specifications

Delivery to Honda's specifications.

Development speed

Suppliers must meet unusual time demands in the development of prototypes, tooling, and design changes. This flexibility is a requirement. American suppliers would consider that a vague objective, favoring a quantified requirement for "x" engineers per 100 employees or some such target. HAM's requirement is to manage the business

About Honda of America Manufacturing (HAM)

HAM in Ohio started producing automobiles in 1982. By the end of this year, the company expects to be manufacturing at an annual rate of 400,000 vehicles; about 12,000 will be exported to Japan and 16,000 to other parts of the world.

HAM is on the verge of becoming one of the Big Three in the American auto industry. Honda of Ohio (including the motorcycle facility) employs more than 10,000 associates and buys \$3 billion of material annually (75 percent local content). Its investment in Ohio exceeds \$2 billion. The automobile division has 235 suppliers for original equipment (OE)-type "raw materials" (steel, plastic resins, etc.) and 300 suppliers of other materials which support auto assembly. Nearly 300 associates in the purchasing department include 40 engineers and other troubleshooters who provide management help to suppliers.

for flexibility.

EDI Connections

HAM implemented its in-house-developed electronic data interchange (EDI) system, which interfaces with a third-party mailbox, in 1990. It starts when HAM buyers enter their material shipping requirements. The supplier acknowledgment is sent through the mailbox. When the supplier's bar coded shipping labels and master pack list are created from the system, HAM buyers poll the mailbox to validate the advanced shipping notice against their releases.

The system has a master bar coded serial number for each pallet. It tracks the pallet, returnable containers on the pallet, and engineering changes for any part on the pallet. HAM took its time in developing the system ("do it right the first time"). EDI supplier invoicing will come later.

In Touch With Your Suppliers

Buyers or their engineering sup-

port people spend as much as 65 percent of their time in the field providing assistance to suppliers. Quality engineers may also spend as much as 25 percent of their time on similar support.

The president of HAM, Hiroyuki Yoshino, also visits key suppliers periodically to discuss major model changes and new business for the supplier. He wants a first-hand assessment of the supplier's capability.

These visits complement HAM's persistent, day-by-day supplier performance evaluations. Every morning, there is a meeting for two levels of HAM's purchasing group management. Nelson meets with direct reports to discuss the day's problems or to see a briefing on some improvement. People at the supervisors' level also meet daily to review similar supplier quality or delivery problems at a lower level. Rejected parts and missed shipments are measured for each supplier; the objective is single digits ppm.

The "partners for life" philosophy at HAM may not be entirely unique with the Honda Company, but their "fierce loyalty" can serve as a lesson to many American companies. The AME Midwest Region plans to visit HAM again in 1992. It will be interesting to see the improvement.

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Supplier Development Results: Example

	Before	After
Number of assembly lines	7	4
Personnel	12	8
Production per labor hour	34	58
Efficiency	68	114
Quality acceptance rate	87%	95%

Figure 3. HAM provides many management services to its suppliers, including on-site visits by engineers and others. Above is an example of supplier performance improvement assisted by Honda employees.