

BP the Honda Way - A Supplier's Lifeline

Applying the tools for improvement.

Cash Powell, Jr.

Honda of America Manufacturing, Inc. of East Liberty, OH is the location. They assemble the Civic coupe, sedan, and the natural gas-powered GX at the rate of 230,000 per year, a Civic coming off the assembly line every 60 seconds, two shifts per day. Honda buys over 2400 parts for a Civic and 80 percent of the value originates from the supplier base. A visitor would assume that if Honda wants to manufacture a world-class product, their suppliers should be world class. Through the unique Honda BP program, suppliers can be just that.

What is BP?

Like other companies, Honda has suppliers in need of improvement. Also like other companies, Honda's purchasing group offers one-time technical help to suppliers as specific problems arise and the supplier asks for advice. But the Best Practices program is an organized Honda methodology designed to train supplier personnel in continuous improvement techniques in a supplier's troubled operation. The BP program is designed to assist the supplier with productivity, quality and delivery, cost, global com-

petitiveness, and through it all, to improve the Honda/supplier relationship. Honda has a staff of eight to 12 people assigned to train suppliers in lean manufacturing practices, on a project basis, usually lasting three months.

Why BP?

Honda's BP program began in Japan in 1977 and in December of 1989 in the United States. Honda believes that with an 80 percent purchased material content, in order to produce a world-class automobile they need world-class suppliers who deliver world-class quality, at a competitive cost.

But the supplier BP program has its roots further back than 1977. They go back to the late 1950s when Mr. Soichiro Honda wanted to get into the manufacture of automobiles. The Japanese Ministry of International Trade and Industry decided there were enough automobile manufacturers in Japan and pressured Japanese automotive parts suppliers not to support another competitor. So Mr. Honda turned to his then-existing motorcycle suppliers to tool up as suppliers for the first Honda automobiles. From that time on, it has

continued as a Honda philosophy that if you can supply quality parts for Honda — on time and at a competitive cost — you can be a supplier for life — and Honda will help you do it. The Honda relationship with suppliers is so mutually effective that no one at the Civic plant could remember offhand when Honda lost a supplier in recent years. In fact, over 100 suppliers (about 25 percent of the supplier base) have participated in the BP program.

BP in Action

How does BP work? First, a supplier must ask for help from Honda. The Honda purchasing organization is staffed to assist suppliers with specific targeted problems a one-time visit may resolve. This kind of help most often is supplied from the crisis management group of eight people.

But the BP program is designed to assist suppliers with longer-term projects, using a focused team approach to teach Honda's continuous improvement philosophy. At the request of the supplier, one or two Honda Purchasing Support and Development Associates (SD) and two sup-

plier associates will be dedicated to the project. A lean manufacturing Coordinator is chosen from the supplier organization to work full time on the project. A second supplier team member is also chosen for the project to become the Lean Manufacturing Coordinator for the next project. By this process, the supplier organization can develop improvement momentum in their plants.

Figure 1 shows the three-month basic schedule summarizing project activities starting with a kickoff meeting and ending with a management review at the end of three months. The Deming "Plan-Do-Check-Action" step is designed to get the "quick hit" results from implementation and builds confidence that the process yields results.

When the BP team begins work with the supplier team, two important tools must be applied for a successful project:

1. The Model Line Selection Matrix
2. Situation Analysis.

As Figure 2, the model line matrix, shows, this tool is used to evaluate the priorities of the project lines to be worked on. In Figure 2, line two has the highest defect rate and line three the largest number of associates. These factors might cause one to select either one of these two lines as the first project. But line one has the highest total number of points including the highest scrap rate and equipment down time hours revealed by the matrix. The model line matrix identifies clearly the first priority BP project.

After the highest priority project is selected, the BP team must determine the baseline data. Such data as model line downtime, production labor/hour, line balance, scrap rate, rework percentage,

3 Month Basic Schedule

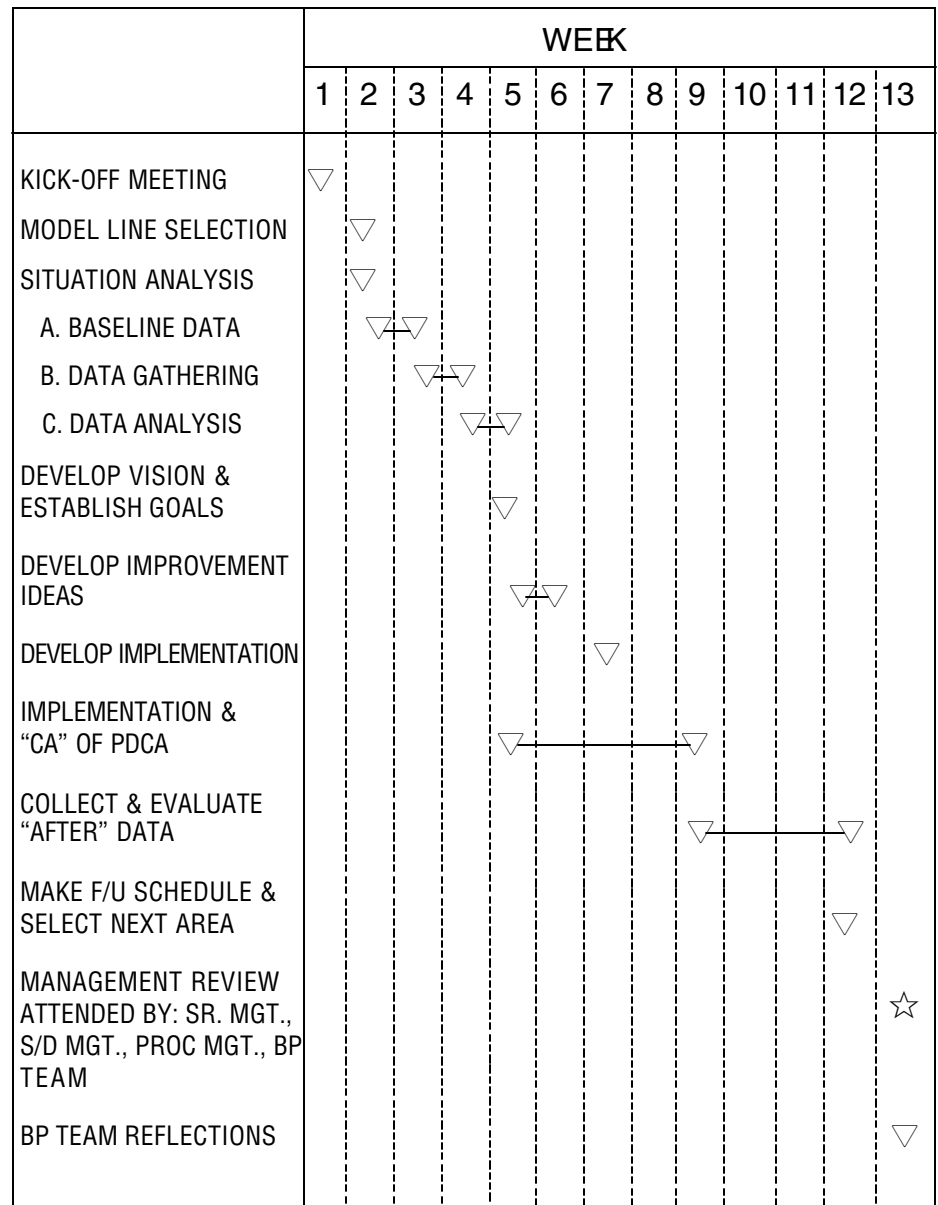


Figure 1.

throughput time, and other factors are measured and recorded so that improvements implemented from the baseline can be identified and celebrated. Gathering the baseline data stimulates the analysis and improvement ideas for the project line.

From the improvement ideas, a detailed plan is developed for implementation. From that point in the project, the hard work begins and the associates work toward improvements during the three-month project using the applicable tools of lean.

BP Model Line Selection Matrix

Measurable	Potential Project Lines		
	Line 1	Line 2	Line 3
Capacity	24 hrs X 7 days	24 hrs X 5 days	24 hrs X 6-7 days
Outsource	YES	YES	NO
Number of Associates	18	42	60
Internal Customers	YES	NO	NO
Defect Rate	1.46	3.31	0.51
OEE	70.20%	70.90%	65.10%
Delivery Incidents	6/mo.	4/mo.	2/mo.
Scrap Rates	7.30%	4.20%	3.70%
Machine Downtime	333 hrs/mo.	87.1 hrs/mo.	46.7 hrs/mo.
Number of Presses	15/20	7	4
Pieces/Day	HIGH	MED	LOW
Number of Products	HIGH	MED	MED
Number of top Rankings	9	2	1

Figure 2.

As the BP teams implement the improvement ideas from the associate involvement, many techniques of lean manufacturing come into play (see Figure 3). Supplier associates learn the tools of lean by applying them in their own operations. These techniques are used with the supplier projects and the

supplier lean coordinator gains the experience for other projects.

The reality is that all parts of the schedule are subject to change based on the situation. In some cases data gathering may take longer than expected. For instance, where no data are available, coordinators may be required to do time

studies or assign operators to collect data that they are not used to collecting. At other times, the data might be available and the team can move on to other issues.

The scheduled four weeks of collecting "after" data helps to ensure the implementation was effective and permanent. However, that phase and the "implementation" phase often blend together as additional ideas are created after the original ideas are implemented.

Notice in Figure 1 that the "implementation" phase begins before "develop implementation" and "develop improvement ideas," but concurrent with the "vision." Starting a project without the vision of where it will lead can lead anywhere. But the idea is to understand the process and the problem so that the goal of where the project will lead will become clear. At this point, the associates have not become involved in brainstorming and problem solving. Associates normally develop the best ideas, but the coordinators must lead the process in the proper direction. For instance, the problems may require a focus on reducing setup times. It may be entirely outside the associates' mindset to consider setup times as part of the problem. Therefore, the supplier development coordinator will be guiding and educating the associates as they go into the brainstorming. Most of the "implementation phase" is of this nature, laying the groundwork for the implementation.

The length of the BP process creates its own problems and opportunities. A single project covering 12 weeks isn't very productive for the overall operation. Subsequent projects should follow a strategy if the supplier's plant is to be truly effective along the road to continuous improvement. The

Techniques of Lean Manufacturing

*7 quality tools (flow chart, Pareto diagram, histogram, run chart, fish-bone diagram, control chart, and scattergram), 5 Ps (Kepner Tregoe – people, plant, policy, procedures, and problem), and 5 Whys (the W. Edwards Deming method of getting at root cause problems)

*Operating equipment effectiveness analysis

*Standard work

*Efficient layouts

*Production leveling

*One to one production

*Pull systems

*Poke yoke systems (mistake proofing)

*Preventive maintenance

*Quick die mold change

*Improving quality

*Eliminating seven wastes (overproduction, idle time of operator or machine, unnecessary handling of parts, waste in the process, waste of inventory above minimum, wasted operator movement, and waste of rejected parts).

but it was well worth the investment for the supplier. Honda's assistance improved a supplier's operation, which is what the BP program is designed to do, and it helped the company make a profit substantially earlier than predicted.

Wrap-Up

The question was asked from the workshop audience why Honda doesn't get another supplier when one gets in trouble. The philosophy is that another supplier would have the same or similar problems. Suppliers are developed in the "Honda Way" by making Best Practices a strategy for doing business. Once Honda starts down the BP road with a supplier, it is more profitable to apply the tools for improvement than to start all over again with a new supplier. The "Honda Way" is the true road to partnership with the supplier that many companies talk about but few can walk. Besides, that's the way Mr. Honda developed the company.

Author's note: Special thanks to Scott Essley, Honda purchasing and engineering coordinator, for assisting in the development of this article.

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Figure 3.

supplier management must be encouraged to develop that strategy.

A project lasting 12 weeks also forces plant management into implementing the project changes as part of the standard work of the project. For instance, on one project, quality problems required the insertion of new process steps half way through the project. The "before" and "after" were hard to match up because the process had changed so much.

SST in Action

The Supplier Support Team (SST) is another resource available to Honda suppliers. This group of eight people provides a wide range of workshops a supplier may need. The workshops are scheduled in various locations around the country without a break-even budget to

control the cost to the supplier. The workshop subjects are:

*Site selection

*Benefits/compensation

*ISO 14000

*Tax accounting

*U.S. customs documentation

*International tax accounting

*Japanese enrichment training

*TQM

*Team building problem solving

*Executive loan.

Many Japanese personnel come to America to work in connection with Japanese-owned companies. Enrichment training about adjusting to life in the United States is offered to these suppliers.

The executive loan program is for suppliers in trouble. Our host, Tom Fink, was assigned to a supplier for 18 months in a turnaround role. The supplier paid a portion of Tom's salary in the second year,