83-1

L. D. MILES
SEDGEFIELD R. 5, B. 840
EASTON, MD. 21601

8 August, 1983

To The Chief Executive of Koyo Kogyo
Hiroshima Japan (name and address supplied by courtesy Ichiro Ueno
President SJVE)

Dear Sir: In my country I can see the results of your superior managemen in three meaningful areas, (1) the quality of your Mazda, (2) the qualit of the language you speak to the public - your customers as shown by the enclosed advertisment in FORBES, and (3) the extent to which you use the Value Engineering methodology which builds competence in people and secures the proper function for the proper cost. I welcome this opportunity to honor you and your people.

I want to tell you this story:

In October 1972 my wife Eleanor and I, with Takehiko Tanaka,then of Japan Steel Co visited Toyo Kogyo. We, with some of your people, and others had an interesting conference in your board room. We then visited your engine laboratory rather extensively. Next we experienced your Mazda production line. We observed much.

Now, in our own country we are thrilled to see in the FORBES magazine advertisement that you people are continuing leaders in using the Value Engineering Methodology to assure quality, to assure competitive costs and to assure a superior work-force by utilizing all of the abilities of your people and by helping each to develop more skills.

I'll report a tangeable result. Our daughter, Mrs Jane Osgatharp of Montpelier Vermont, needed a car. She made extensive comparisons. She decided that the Mazda best had the characteristics she wanted, had stable assured quality and appropriate cost.

But, she would have to wait 60 days to get one. She waited. Last week she took delivery on her new Mazda!

She reports 200 pleasant miles so far.

We are proud of you, and wish for you the best of continuing Success.

Sincerely,

Lawrence D Miles

Originator of"Value Engineering"

FORBES, AUGUST 15, 1983

At Mazda Group Value Engineering sessions, G.V.E. team members review design alternativ with the best of these being adopted for use.

The Mazda Story: An In-depth Series

AN INSIDE LOOK AT AN R&D PROCESS FORMULATED TO PRODUCE INNOVATIVE, HIGH QUALITY AUTOMOBILES AT THE LOWEST POSSIBLE COST.

MAZDA'S R&I

Every two or three years, a new Mazda automobile is born.

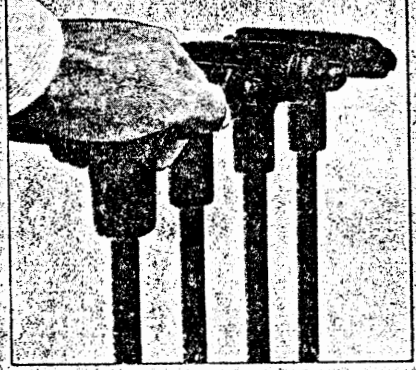
In 1983, it was the Mazda 626. A series of road cars so unique they became both *Motor Trend* magazine's *Import Car of the Year* in America and *Car of the Year* in Japan.

Like all new Mazdas, the 626 is the product of an R&D process that is as distinctly Mazda's as the automobiles that result from it.

MEETING CONSUMER EXPECTATIONS.

The ability to accurately forecast the needs of consumers, usually years in advance, is essential if we are to develop the kinds of automobiles that people will want to own.

Mazda R&D leaves nothing to chance. For example, several gearshift grip designs were tested before one was chosen for the Mazda 626.



We make such forecasts based on extensive research, and then attempt to translate our findings into technologically sophisticated automobiles—automobiles that offer *the highest possible quality at the lowest possible cost, and which are developed in the shortest possible time.*

In a very real sense, this is our R&D formula for building automobiles that meet consumer expectations for performance, quality and *value.*

FORBES, AUGUST 15, 1983

FORMULA

The Mazda rotary engine (rotor shown) is emblematic of our commitment to innovative R&D.

THE HIGHEST QUALITY, THE LOWEST COST.

One manifestation of this formula is an R&D concept called *Group Value Engineering*.

G.V.E. development teams, staffed by a cross-section of our personnel, are responsible for reviewing various designs which might be used to meet specific development objectives.

The idea is to analyze as many design alternatives as possible, from as many points of view as possible, and to adopt the best of these for use in our automobiles.

For example, one G.V.E. team evaluated 21 different premium rear suspension systems for possible use in the Mazda 626. They compared handling characteristics, safety, vibration, ease of assembly, cost, weight, and many other factors.

The team included layout planners, chassis designers, cost control personnel, purchasing department staff, and numerous engineers.

Their exhaustive six-month analysis led to the development of a new suspension system patterned on one of our own patented designs. A system that not only met our objectives in terms of performance, but also our prerequisite of providing the highest quality at the lowest cost.

QUICKER, MORE COMPREHENSIVE DEVELOPMENT.

Because consumer needs are subject to rapid change, it is important that our automobiles be developed as quickly as possible. But without making compromises along the way.

We're working to reduce development time by three months—and to reduce our engineering workload by about 11%—through the use of an *integrated* computer-aided design/computer-aided manufacturing (CAD/CAM) system.

Other automakers use CAD and CAM. But Mazda is one of the first to have devised a computer system that links the two in the development of new automobiles.

The advantage of this integration is that our CAD and CAM operations share a common data base. So data obtained during design can be accessed for use during manufacture, where it is used to guide the automated milling machines that cut the steel dies for door panels, fenders, and other component parts.

Mazda R&D has resulted in automobiles that are known for their comfort and roominess.

THE MORE YOU LOOK, THE MORE YOU LIKE.

G.V.E. and integrated CAD/CAM are only two examples of Mazda's R&D activities.

Another example is now taking shape at our Miyoshi Proving Ground, where we're building one of the world's most sophisticated wind tunnel test facilities. Once completed, this $12 million facility will further enhance our capability to produce automobiles with optimal aerodynamic qualities.

The more you look at the cars and trucks we're building today, the more you like the fact that they're the result of an R&D formula that has placed them among the most innovative, best-selling automobiles in the world.

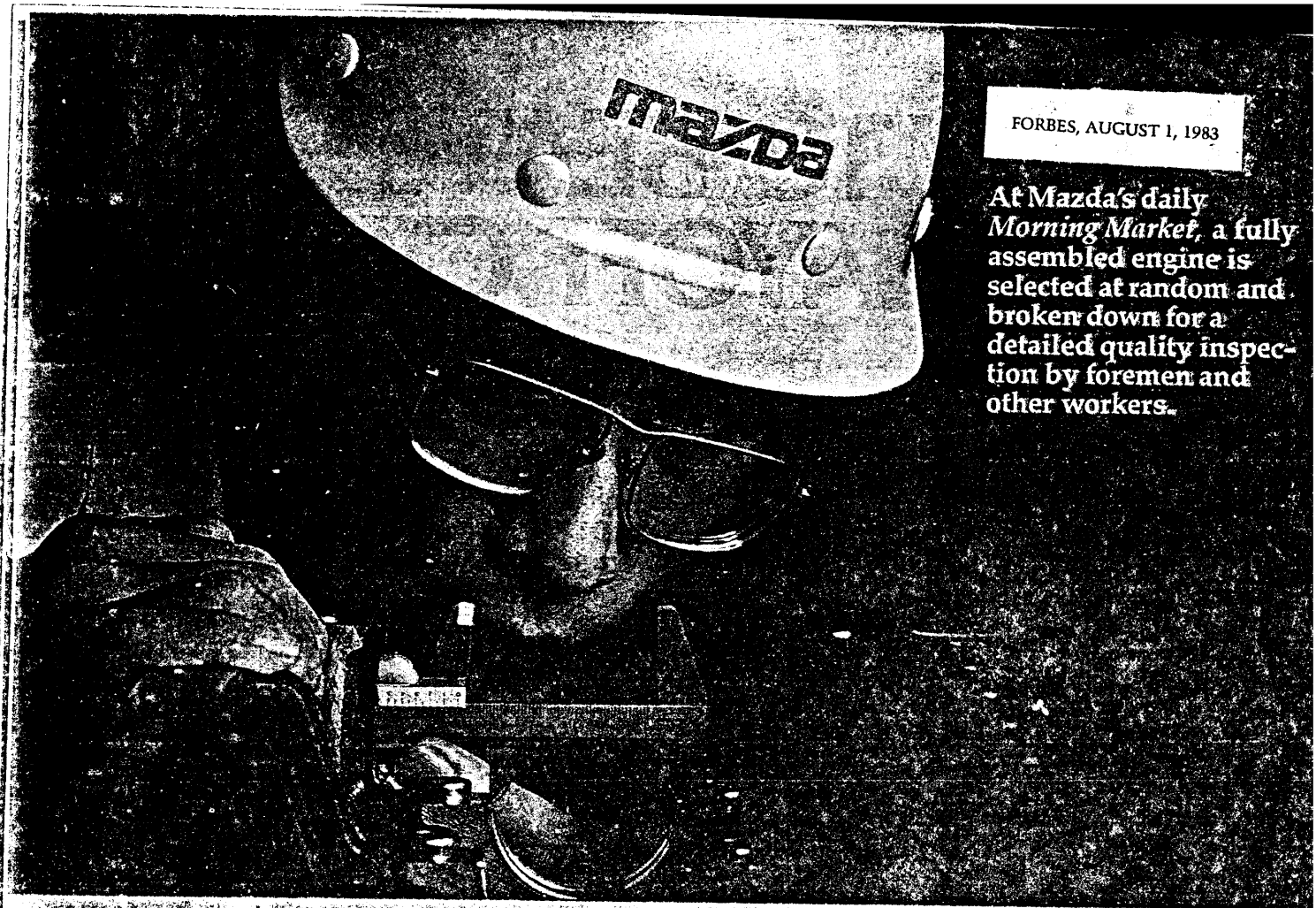
mazda

FREE 1982 ANNUAL REPORT

We'd like you to know more about Mazda. For a free copy of our 1982 Annual Report, just send your name, address, city, state and zip code to the address shown.

Mailing & Marketing Inc.
Box 5960, Orange, CA 92668
Attn: Mazda Annual Report Offer

Mazda's rotary engine licensed by NSU-WANKEL



FORBES, AUGUST 1, 1983

At Mazda's daily *Morning Market*, a fully assembled engine is selected at random and broken down for a detailed quality inspection by foremen and other workers.

The Mazda Story: 3rd in a Series

QUALITY IS NOW THE GOAL OF ALL AUTOMAKERS.
WHAT MAKES MAZDA QUALITY UNIQUE IS
THE PROFOUND COMMITMENT OF THE PEOPLE BEHIND IT.

THE EVOLUTION OF QUALITY

An automobile's quality is only as high as the quality of work that goes into it.

This is a singularly appealing thought if you are now considering buying a Mazda.

Because over the years, our people have demonstrated a deep and abiding sense of commitment to the quality of their work.

And this commitment is clearly evident in both the high quality and reasonable cost of our automobiles.

DETERMINING THE COST OF QUALITY.

The quality and cost of a Mazda automobile is largely determined "upstream," by research, planning and design.

It is here that a design concept called *Group Value Engineering* proves invaluable.

A typical Mazda G.V.E. project team will include people from a variety of disciplines—engineers, designers, layout planners, and people from cost control and purchasing, for example. Their job is to analyze and compare various design alternatives. And to arrive at the one design which best meets specific development objectives while also providing the highest possible quality at the lowest possible cost.

MAZDA'S QUALITY EVOLUTION.

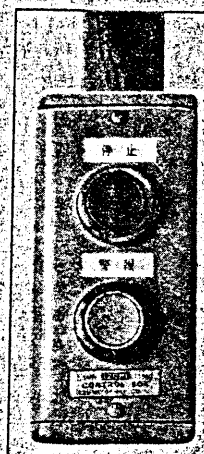
A Mazda's quality and cost is also determined "downstream

OF MAZDA

during production.

Here our people, workers and management alike, provide an edge in quality that is difficult to come by.

By adhering to thousands of quality standards that we've established for the work that goes into a Mazda, our people build quality into our automobiles at each step in the production process.



By pressing a button, workers can call for assistance or even halt the assembly line.

In a sense, they treat each other as customers. For just as we will not sell an automobile that hasn't met quality standards, they will not allow substandard work to move forward to the next person on the assembly line. In fact, workers can bring the assembly line to a halt simply by pressing a button should the situation warrant it.

Our people have also assumed responsibility for improving the quality of the work procedures used to meet production standards.

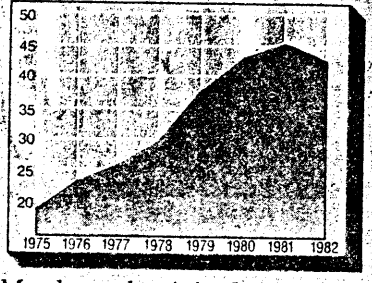
More than 18,000 Mazda people demonstrate this responsibility through voluntary participation in *Mazda Quality Circles*. Circle members meet in small groups to solve a variety of job-related problems. In the process, they gain a strong sense of personal accomplishment and mutual respect for fellow workers. Moreover, their involvement results in the continuous evolution of the quality of work at Mazda.

FEWER STEPS ON THE ASSEMBLY LINE.

Consider how the ten members of the *Young Craftsmanship* MQ Circle improved the quality of their work, and their work environment.

Their objective was deceptively simple: to reduce the walking distance between their supplies of parts and the points on the assembly line where the parts are used.

The distance wasn't far. A little more than eleven steps. But over 3½ months, Circle members, working with their supervisor, succeeded in reducing the distance to fewer than seven steps. And reduced a walk of about *six miles* a day to one of only about 3½ miles.



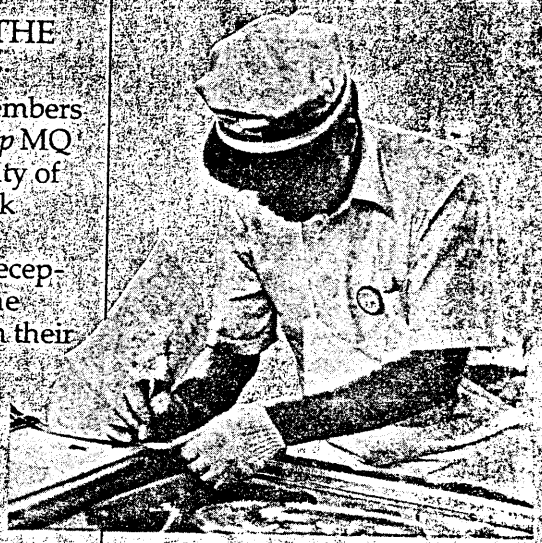
Mazda productivity has risen 126.4% over the past seven years.

ANOTHER QUALITY EDGE FOR MAZDA.

But a shorter walk isn't all that was accomplished. Circle members contributed more than *240 ideas* aimed at improving the quality of their work. And the adoption of their ideas had dramatic results.

For example, a tighter bunching of parts supplies eliminated two assembly line work stations and freed space for future operations.

Also, as the result of more precisely standardized assembly procedures developed by Circle members, the per vehicle defect rate—.0078 to start with—was further reduced by 48.7%. Which provides another edge in quality for Mazda.



By meeting quality standards, our people build quality into our automobiles at each step in production.

By meeting quality standards, and actively seeking ways to improve work procedures, our people continue to prove that *commitment to quality* isn't just an abstract concept.

It's a tangible part of every Mazda—an expression of conscience on the part of people who care enough to achieve the highest quality possible.

mazda

FREE 1982 ANNUAL REPORT

We'd like you to know more about Mazda. For a free copy of our 1982 Annual Report, just send your name, address, city, state and zip code to the address shown.

Mailing & Marketing Inc.
Box 5960, Orange, CA 92668
Attn: Mazda Annual Report Offer